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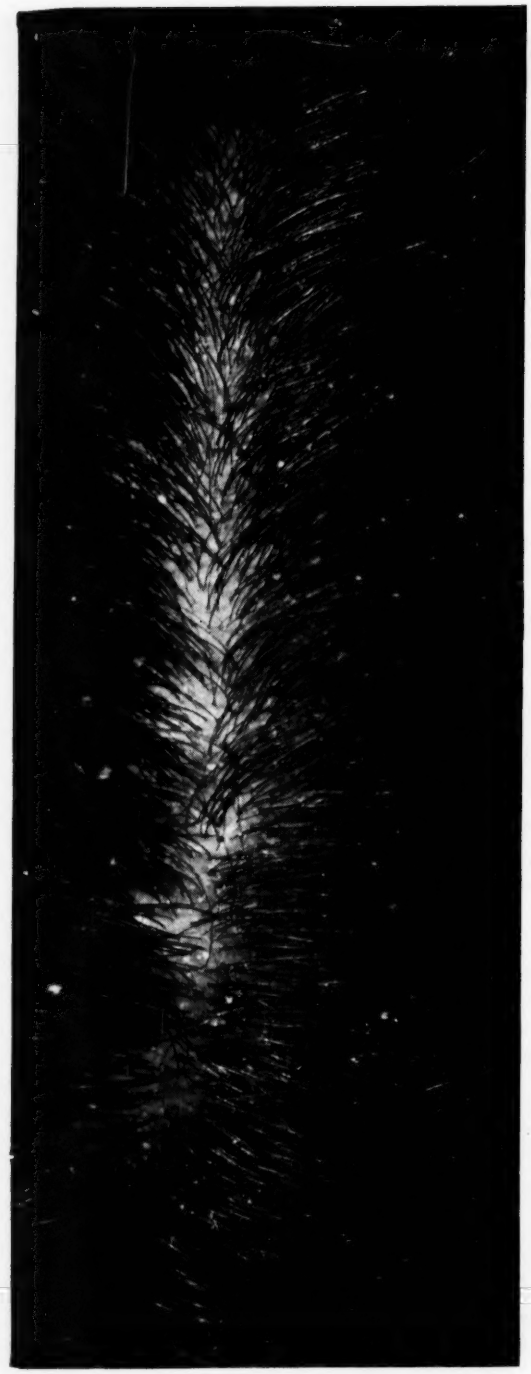
NOTE: Due to the devastating hurricanes that struck Rhode Island late in August and early in September, inflicting among others the E. A. Johnson Company, our printers, with great loss, this issue of the JOURNAL is unavoidably late in its distribution.

THE EDITOR



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The RHODE ISLAND MEDICAL JOURNAL

VOL. XXXVII SEPTEMBER, 1954 NO. 9

NEW DEVELOPMENTS IN THE SURGICAL MANAGEMENT OF CANCER IN THE ORAL CAVITY AND THROAT*

ANTHONY ZOVICKIAN, M.D.

The Author. *Anthony Zovickian, M.D., of Boston, Massachusetts. Formerly Instructor in Plastic Surgery and Resident Plastic Surgeon, the Johns Hopkins Medical School and the Johns Hopkins Hospital.*

THE CURRENT TREND in surgery is toward more effective methods of eradicating cancer. Removal of a malignant growth by radical surgical techniques seems to offer the patient the best hope for cure. The underlying principle in this type of cancer surgery is the removal "en bloc" of the local growth and the regional lymph nodes. Recently, this principle has been applied to cancer in the oral cavity, the maxillo-facial region and the neck, and has been combined with reconstructive surgical methods to assure immediate or early repair.

In this region of specialized and important bodily functions, such as swallowing and speech, successful cancer surgery should be measured not only in terms of the permanent removal of neoplastic tissue, but also, by the degree of restored functions and appearance. Plastic surgery has thus become closely integrated with the effective treatment of cancer in this anatomical area. Since the techniques of removal and repair vary according to the location of the growth, it will be necessary to consider in turn the various sites of tumor growth.

The Lips

When carcinoma of the lip is seen early and the size of the lesion is one centimeter or less in diameter, irradiation or removal by a V-excision will give equally good results. If muscle is involved, irradiation therapy will cause a notching of the vermilion of the lip. This can be corrected by excision and careful closure. It would seem logical, therefore, to limit the use of X-irradiation to the superficial, non-invasive growths.

For larger tumors, requiring removal of one-half to three-fourths of the lip, repair is made using arterial flaps of the Stein-Abbé-Estlander type. These flaps are raised from the uninvolved lip and are rotated on their pedicles into the defect.

The question of when to perform a neck dissection for carcinoma of the lip when nodes are not felt is ever present. Martin[1] has shown that only eight percent of cases of lip carcinoma without palpable nodes subsequently develop cervical metastases. On statistical grounds, therefore, prophylactic neck dissection is not indicated. Ward[2] has shown that the prognosis for cure worsens if the growth is large or if the tumor cells show poor differentiation. A safe rule to follow in deciding on a regional lymph node dissection is this: if the tumor is 2.0 cm. in diameter and exhibits a high degree of anaplasia, or, if the growth is well differentiated but is 3.0 cm. or more in diameter, then a lymph node removal should be done even though a mass is not palpable clinically. Usually, a suprahyoid dissection is sufficient, but should a metastatic node be present, then a total radical neck dissection should be done. If the primary lesion is in the mid-line of the lip, a bilateral suprahyoid lymph node dissection should be performed. If a nest of metastatic cells is found, then a total neck dissection is done on the involved side. Frozen section analysis has proven helpful to the surgeon in making such decisions at the operating table and reduces the number of surgical steps. Simultaneously performed bilateral radical lymph node removal is not uniformly safe because of the severe impairment of the venous return from the brain. It is preferable to wait between four to six weeks for collateral venous drainage to develop before the second side is attempted. A suprahyoid dissection on one side and a total neck dissection on the opposite side can be done safely in one sitting.

Since artery-bearing lip flaps require at least one patent external maxillary artery so that they may remain viable, it is advisable not to combine the lip resection and repair with a bilateral suprahyoid dissection. Around the mouth healing is prompt and collateral circulation develops early. In our experience, we have done the neck dissection as early as six days following the resection and repair

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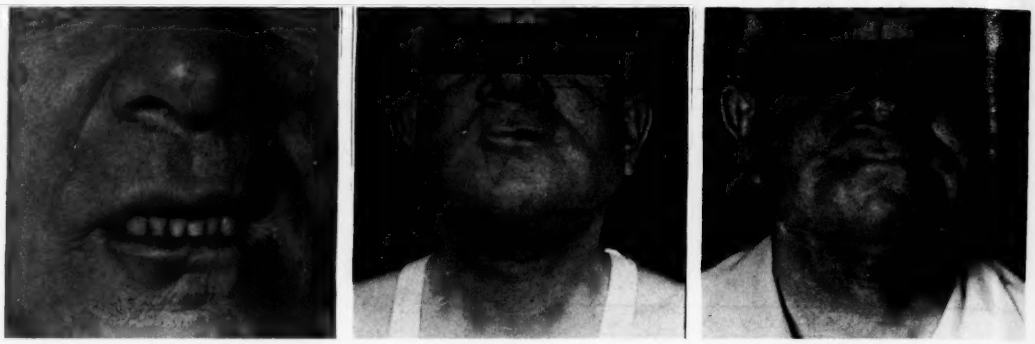
*Presented at the U. S. Veterans Hospital, Providence, Rhode Island, February 18, 1954.



FIGURES 1a, b, c

(a) Patient with a squamous cell carcinoma involving almost one-half of the lower lip. The lesion was well differentiated. The tumor had been present for eleven months. A node was palpable in the right submaxillary triangle.

(b) Same patient three weeks after resection of two-thirds of the lower lip. Lip repair has been accomplished with an Estlander flap from the lateral aspect of the upper lip.

Six days following lip resection and repair a bilateral suprahyoid neck dissection was done. There were no metastatic nodes found. Note edema of the face from lymph stasis. The neck incision is purposely curved to prevent a tight contracture.

(c) The patient one year after resection of lip and upper neck dissection. A commissure-plasty was done six weeks after initial operation. The oral stoma is as wide as before operation and there is no difficulty removing and inserting dentures.

of the lip. By this time, the wound edges are agglutinated sufficiently to withstand a drop in arterial blood flow. Care must be exercised in establishing the airway, not to separate the wound edges. To circumvent this hazard, we prefer a nasotracheal tube. One can wait three weeks before doing the lymph node resection, if a skilled anesthetist is not available for proper intubation. By this time, a repair of the lip commissure can be done first under a local anesthetic, followed by the induction of the general anesthetic and of an orotracheal airway. Figures 1a, b, c.

For removal of the primary growth in the lip and the local flap repair, block anesthesia is preferred. In this way, the operation can be performed on an out-patient basis with relatively little expense to the patient.

Where total involvement of the lower lip is present, there is not only a need for bilateral node resection but also a water-tight restoration of the removed structure must be done promptly to prevent food and saliva from escaping. All this can be accomplished in a one-stage procedure using a bipedicled cervical flap. This is first raised from the upper neck following the natural skin creases. Then the bilateral neck dissection is done limiting one side to the suprahyoid area, as mentioned before. The node dissection specimen is left attached to the resected lip by stripping the periosteum over the anterior segment of the mandible. If the tumor is attached to the gingiva, the mandible here may also be removed. If this is done, the posterior segments are held in proper alignment by an internally-placed rod of stainless steel.[3] The cervical flap is then raised upward, like a visor, into the defect. At each commissure, dog ears will result. No attention is paid to these, since the blood supply to the central portion of the flap will be disturbed. The raw surface behind the new lower lip is lined with a split-thickness skin graft to prevent rolling of the flap and assure good healing. The defect in the flap bed is likewise covered. Figures 2a, b, c, show a patient following the procedure just described. The new lip healed satisfactorily and was air tight as well as water tight.

Buccal Mucosa, Mandible, Floor of Mouth and Tongue

The prognosis for cure diminishes the further back the growth occurs in the oral cavity, i.e. from the lips to the hypopharynx. This observation is based on case analyses from different sources. In these reports the method of therapy usually consisted of electrocoagulation or irradiation therapy of the local lesion with or without a radical neck dissection. The textbook of Ward[2] and Hendrick furnishes an excellent review of results obtained by various authors. In general, it may be stated that irradiation may give favorable results for carcinoma of the buccal mucosa, but results are less certain when the gingiva, floor of mouth and tongue are involved. The overall five-year survival rate for carcinoma of the tongue and floor of mouth treated by local irradiation plus dissection of lymph nodes is about 25%. It would appear that extensive surgery should offer hope for better results.

Wide resection of oral cavity lesions results in large losses of lining mucous membrane. The mandible, too, is removed segmentally more often than not because of its proximity to the cancer and in-

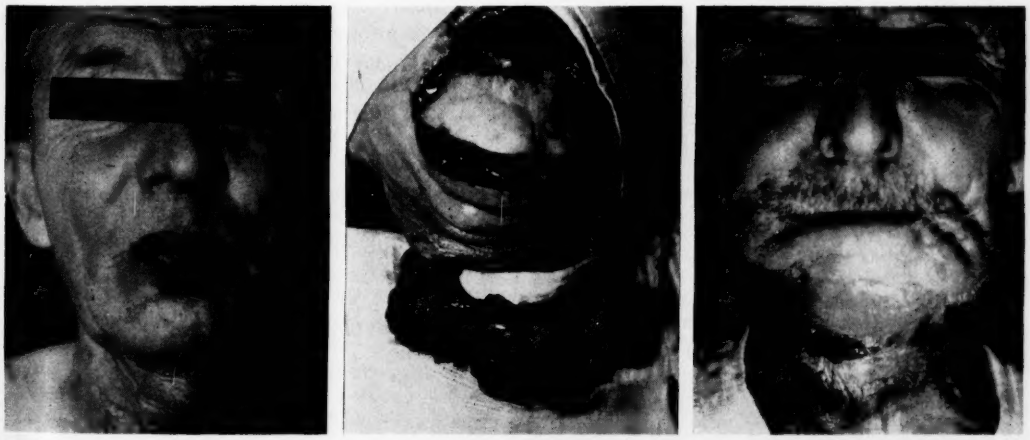
volvement of the periosteal lymphatics by tumor cells. The closure of a defect when buccal mucosa, mandible, floor of the mouth and half of the tongue have been removed in order to circumscribe the tumor always is a problem. To close such a wound with existing tissue would result in binding-down of the remaining tongue and a pulling of the functional segment of the mandible away from a position of occlusion. Faced with such a situation the surgeon who is function-minded subconsciously tends to reduce his margin of excision to facilitate closure of the wound.

This problem has been resolved by preliminary preparation of lining tissue first described by Edgerton.[4] The second step, reported by Ward[5] and Robben, consists of a radical neck dissection in continuity with the primary tumor growth inside the mouth and is known as the "composite operation." At the same time, the reconstruction of the oral cavity lining is done.

These two operations are staged two weeks apart, usually. The first stage consists of the preparation of the cervical flap. It can be done either under local anesthesia or a general anesthesia with an adequate airway. The upper level of resection is determined and marked on the skin. The length and breadth of the defect to be created are estimated. The flap is marked out with these measurements in mind. It is hinged upon the upper arms of the lazy-Y or Kocher incision. The distal end of the flap reaches the base of the neck where the skin is non-hair bearing. The flap is elevated from the underlying fascia and platysma muscle. The dissection is carried upward along natural tissue planes creating a pocket in the cheek. The distal edge of the flap is brought up into this pocket opposite the lesion and as high as the estimated upper level of the resection. It is anchored here with through and through mattress sutures tied over vaseline pledgets. A skin graft is removed and placed in the bed of the flap thus assuring complete closure of the wound. The flap is dressed on the fifth day and, on the twelfth day, it is delayed by making an incision two-thirds across the width of the pedicle. This is done as part of a dressing procedure and requires no anesthesia or special facilities.

Two days later, the second stage of the composite operation is performed. First a preliminary tracheostomy is done and anesthesia is administered through a tracheal cannula. Then the neck dissection is started from below and carried upward.

The lesion in the oral cavity is exposed and removed either by the "pull through" technique or by a mid-line lip-splitting incision. In the former method, the buccal mucosa is divided and the oral cavity is entered laterally. The mandible is divided at two selected points. The intervening segment of bone is pulled downward exteriorizing and exposing the area involved by tumor. The method of



FIGURES 2a, b, c

(a) A sixty-seven year old male with a long-standing, infiltrative type of squamous carcinoma involving the entire lower lip. Note swelling in the right submaxillary region. There was no involvement of the mandible.

(b) Photograph taken just prior to removal of the specimen. The block dissection includes the entire lower lip and chin, periosteum of the mandible, right jugular chain of lymph nodes and the suprahyoid group of nodes on the left side. Note the cervical skin flap which is pedicled on each cheek and which is cut following natural skin creases.

(c) Appearance of the same patient two weeks following one-stage block resection of lower lip and lymphatics combined with reconstruction. The double pedicle flap shown in Figure 2b has been shifted upward like a visor. The raw surface of this flap, facing the inside of the oral cavity, has been lined with a split-thickness graft. The bed of the flap on the neck has been split grafted also. Note post-operative swelling as well as "dog-ear" deformity at each angle of the mouth. This can be corrected by a plastic procedure at a later date.

Even at this early date, the patient can puff out his cheeks demonstrating that he has an air-tight lip. Functionally, the lip has been successfully restored in a single operation.

continued on next page

splitting the lower lip in the mid-line gives a much better exposure of the rear of the oral cavity. The skin graft in the bed of the flap is removed still completely attached to the block dissection specimen. (Figure 3c.)

The flap of skin from the lower neck is adherent to the undersurface of the upper neck and cheek. After trimming this to the size and shape of the defect, it resembles an island of skin. The margins of this so-called "island flap" are then carefully sutured to the mucosal edges and seal off the oral cavity from the neck. The upper edges of the neck incisions are approximated. Below, in the base of the neck, the wound is covered by another split-thickness graft.

The segment of remaining mandible may be held in alignment by means of guide planes or internally-placed steel rods.[3] Guide planes can be applied if teeth are present. Steel rods are helpful in edentulous jaws. In our experience, internal fixation is not essential since there occurs relatively little scar contracture when the oral cavity is closed without tension by means of the flap repair. The malocclusion effected by muscle imbalance can be overcome by the patient in a period of two to three months. This is done simply by applying counterforce with the palm of the hand. Since this is a natural position to assume when sitting down (the so-called "thinker's position"), it can be done almost constantly during the course of each day by the patient.

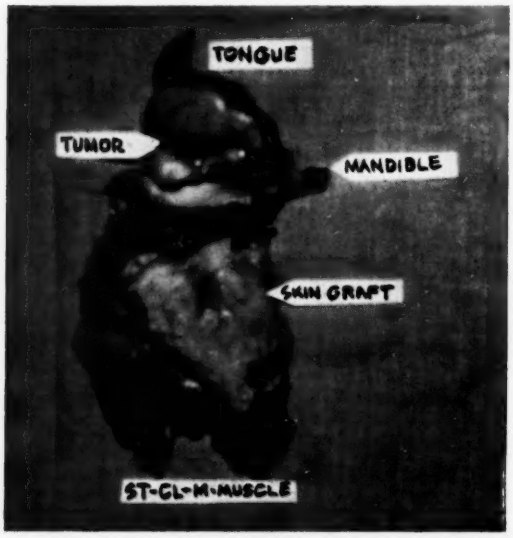


FIGURE 3c

Photograph of specimen removed in the same patient. The tumor lies between the segments of tissue labeled *tongue* and *mandible*. The skin graft is attached to platysma muscle and superficial cervical fascia. The sterno-cleido-mastoid muscle and jugular vein with attached lymphatics are concealed beneath the skin graft.

This method of repair with the cervical flap just described is valuable because of its safety and versatility in application. We have used it after irradiation treatments had been given. In instances such as this, where slow wound healing is anticipated, the interval between stages has been increased to three weeks. It can be employed for lesions occurring anteriorly, in the mid-line, or as far back as the vertical ramus of the mandible. It is applicable to carcinoma of the buccal mucosa, even when it has perforated the entire thickness of the cheek. It is applicable to carcinoma of the mandible, floor of the mouth and the mid-lateral third of the tongue. (Figures 3a, b show a patient who has had this operation for cancer close to the base of the tongue.)

Base of the Tongue, Tonsil and Oropharynx

Carcinoma in the base of the tongue, tonsil and oropharynx which includes the pyriform sinus is difficult to eradicate by electrocoagulation and irradiation methods. The overall salvage rate in cancer of the tonsil is about 18%.[2] Surgery has, heretofore, been directed to excision of the lymphatics in the neck. Moreover, recurrences treated by further irradiation have resulted in pharyngeal fistulas and hemorrhage from the carotid artery.

The composite operation has in recent years been applied to this anatomical area. Edgerton[6] has further improved the technique so that the resection of the lesion and the reconstruction can be performed at a single operation.

The important points in the technique are the proper placement of the skin incisions, exposure of the growth and the reconstruction of the pharyngeal wall defect. First, a tracheostomy is performed under a local anesthetic and a Magill tube is inserted. After general anesthesia is established, the operation is begun by making a modified Kocher Y-incision (Figure 4a). The upper arms of the Y are carried below the level of the hyoid bone. A complete neck dissection is begun from the clavicle upward. The spinal accessory nerve is spared if the tonsillar node is not involved. The lower lip is split in the midline and the buccal sulcus is incised so that a large cheek flap can be laid back uncovering the oral cavity. To obtain better exposure and to clear away possible extension of tumor cells into the pterygoid fossa, a segment of the mandible which includes the angle is removed. By forward traction of the tongue, the base of the tongue, tonsillar pillars, the oropharynx and pyriform sinus are readily brought into view. Any lesion occurring here can be removed with a wide margin and attached still to the jugular chain of lymph nodes. The defect in the wall of the pharynx is so wide usually that closure cannot be accomplished without narrowing the pharynx and pulling the tongue backwards. Instead of pulling the mucosal edges

FIGURE 3a

The appearance of a sixty-four year old white male five days following a first-stage composite operation. Primary lesion is in the lateral margin of the middle third of the tongue with extension into the periosteum of the mandible and submaxillary nodes. A cervical apron flap has been raised and folded upon itself. Vaseline gauze pledgets on the cheek serve to anchor the edge of the flap at the desired level in the cheek pocket. The flap bed has been covered from the base of the neck to the uppermost level of the cheek pocket with a dermatome graft. This graft is expendible, being removed in toto, attached to the specimen of the block dissection. The second stage was done sixteen days later.

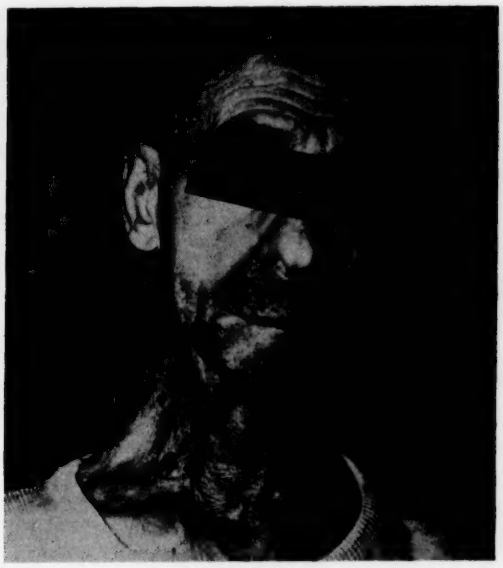


FIGURE 3b

The same patient six weeks after the second-stage composite operation in which the lateral one-third of the tongue, the floor of the mouth, the mandible and the jugular chain of lymphatics with the skin graft attached were removed in one piece. The previously raised cervical flap was allowed to stay attached to the under-surface of the cheek as an island of skin. This island flap was trimmed to the proper size and shape to permit closure of the mucosal lining without any tension.

There is no internal fixation of the mandible. Note lack of deviation of the remaining jaw due to closure without tension which the flap lining provides. There is no difficulty in swallowing. Some speech impairment exists only because of the extensive amount of tongue that was necessary to remove.

together, the gap is filled with a stent of tantalum or stainless steel mesh covered with a split thickness graft (Figure 4b). The cheek flap is laid back in its original bed and overlies the skin graft which is thus assured an adequate blood supply for a successful "take."

Oral feedings are withheld until wound healing is firmly established. The inert metal stent can be removed at the end of two weeks. The tracheotomy opening is allowed to close when swallowing has been reestablished.

Figure 4c shows a patient who has undergone the procedure described. Tongue function and swallowing are very satisfactory. He was discharged from the hospital in eighteen days. His wounds healed per primam.

If irradiation has been withheld, these cases heal without fistula formation even though the graft has not taken 100%.

The Pharynx, Extrinsic Larynx, Hypopharynx and Cervical Esophagus

Cancer in these areas up to now has been a graver problem from the standpoint of survival than in any of the regions so far discussed. The term extrinsic larynx is loosely defined anatomically and includes the epiglottis, the arytenoids, the aryepiglottic folds and the post-cricoid region or hypopharynx. By proximity it may also include the pyriform sinus and cervical esophagus. Results from irradiation therapy using accepted techniques have shown discouraging results. Baclesse, from the Curie Institute in Paris, reported less than 8% survival after five years. Lenz, from the Presbyterian Hospital in New York, had no five-year survivals out of twenty-seven patients with carcinoma in the pyriform sinus. Martin, reporting a large number of patients with carcinoma of the extrinsic larynx treated by external irradiation, had 10% of his cases alive at the end of five years.

The problem from a surgical standpoint requires for satisfactory solution a wide resection of the primary growth, control of the regional lymphatic spread and a simple method of restoring the gullet for the purpose of swallowing. Reports on the surgical removal of growth in these areas have been few and the series of cases have been small and carefully selected. Survival rates have been a little

continued on next page

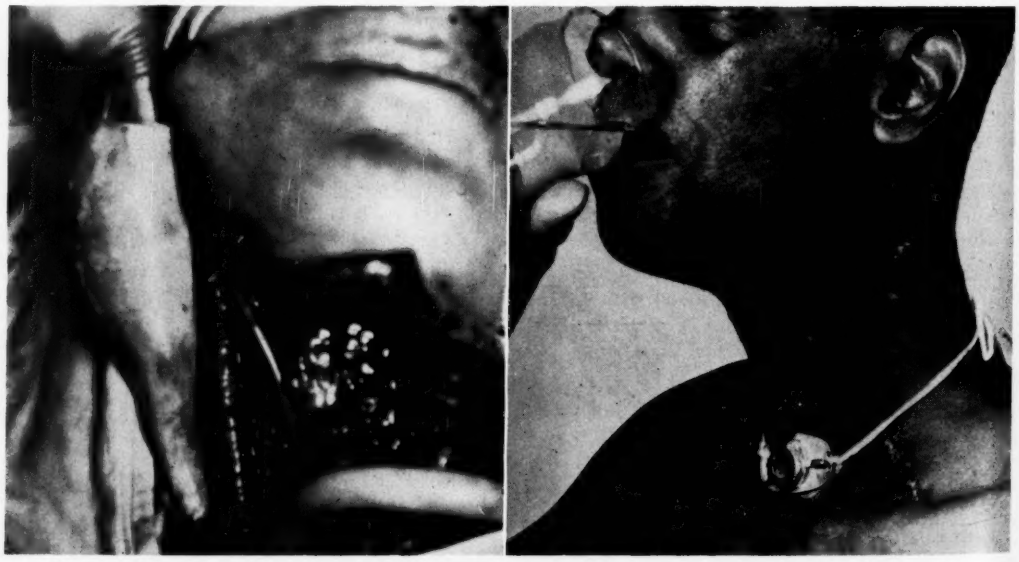
FIGURES 4a, b, c

(a) Beginning of a one-stage operation for removal of carcinoma of the right tonsil. The patient is a seventy-year-old white male. The lesion involves a portion of the soft palate. A node is palpable below the angle of the mandible. Here, a tracheostomy has been done and general anesthesia is being started. The ink lines show the type of incision used.

(b) The specimen has been removed under direct vision after a mid-line lower lip splitting incision was made to expose the oropharyngeal region. The tonsil, a portion of soft palate, contents of the pterygoid fossa, segment of the mandible have all been removed in one piece attached to the neck dissection specimen. The defect in the lateral pharyngeal wall is shown being filled in with a split-thickness graft stretched over an oval-shaped piece of tantalum mesh. This stent is purposely made larger than necessary to permit application of a better pressure dressing and to compensate for the contracture which naturally occurs with skin grafts.

(c) The appearance of the patient at the close of the operation. The upper cervical flap adequately covers the underlying skin graft and nourishes it. There is no fixation of the mandible. Lateral deviation can be overcome in two to three months by daily manual pressure.

A satisfactory cancer operation has thus been accomplished together with restoration of pharyngeal lining membrane in one step. Tongue function and swallowing are not impaired. Tracheostomy is only temporary.



FIGURES 5a, b

(a) In carcinoma of the extrinsic larynx or pharynx, most or all of the pharyngeal mucosa may have to be excised. Here a laryngo-pharyngectomy and a radical neck dissection have been performed. Note the pharynx reconstructed from tantalum mesh and a thick split graft, ready to be inserted into position. Before this is done, a feeding tube must be threaded through the stent and distal esophagus via one nostril. Note the carotid artery, a Levine tube and a Magill tube inserted into the tracheal stump through which gas and oxygen is administered.

(b) A forty-three year old colored male three weeks following a one stage laryngo-pharyngectomy, radical neck dissection and skin graft reconstruction of the pharynx. The patient began taking liquid nourishment on the fourteenth post-operative day. He has been well without recurrence for over two years. He eats all kinds of food and speaks with an esophageal voice.

better with surgical removal than with x-ray therapy. The methods used for reconstruction have required prolonged steps. Even the two-stage method of reconstruction of the cervical esophagus as advocated by Wookey has distinct disadvantages. The patients have a pharyngeal and an esophageal fistula overlying a tracheal stoma. It is difficult to prevent saliva from trickling into the tracheo-bronchial tree and it is difficult to achieve satisfactory restoration of the esophageal lumen with flap tissue that is constantly being bathed with saliva and bacteria.

Noting how well skin grafts take in the oral cavity despite an undesirable environment, Edgerton,[6] in February 1952, reported on nine cases in which he had successfully reconstructed the pharynx and esophagus immediately after resection, using a cylinder fashioned from tantalum mesh and covered with a skin graft. Others have since reported the use of this method with satisfactory results. Among these authors are Conley[8] and Negus[9] and Moore.[10]

Figure 5 is an illustration of one of our first patients treated by the method of Edgerton for carcinoma of the extrinsic larynx. We have had the occasion to use this technique on eleven patients. There have been two operative deaths in this number of cases, one from pulmonary embolus and the other from sudden bleeding from an undetermined source on the eleventh postoperative day.

CONCLUSIONS

Indications are that in the treatment of cancer of the head and neck and oral cavity, extensive surgery utilizing the well-established principle of the en bloc resection will lead to better results in terms of cures and five year survival rates. In this anatomical region of highly specialized functions, early or immediate reconstruction is necessary along with the radical extirpation of the cancer.

The use of skin grafts and local flaps offers the quickest methods of repair. To be successfully applied, the operative steps have to be planned in advance taking into consideration the type of reconstruction that will be required in each case.

These techniques have been briefly described and the end results illustrated. There are different techniques applicable to the various locations of cancerous growth, from the lips to the cervical esophagus.

The advantages obtained by these preplanned resection and reconstructive procedures are several: (1) deformity is reduced to a minimum, (2) hospitalization time is decreased, (3) there is improved restoration of swallowing and speech, (4) postoperative complications such as pain, hemorrhages and fistulae are reduced, (5) wider resection of tissues is permitted with expected improvement in the long term survival rates.

Although it is as yet too early to provide statistical analyses where extensive surgery of the type described has been performed, the results have been encouraging. It is hoped that continued development in surgical techniques along these patterns will make the outlook for the cancer patient a brighter one.

BIBLIOGRAPHY

[1]Martin, H. E.: Treatment of Cancer of the Lip. American Journal Surgery, 30:215, 1935.

[2]Ward, G. E. and Hendrick, J. W.: Diagnosis and Treatment of Tumors of the Head and Neck. The Williams and Wilkins Co., Baltimore, 1950.

[3]Edgerton, M. T.; Ward, G. E. and Sikes, T. E.: Fixation and plastic repair after partial mandibular resection. Pl. and Reconstructive Surgery, 5, No. 3, pp. 231-246, March, 1950.

[4]Edgerton, M. T., Jr.: Replacement of lining to oral cavity following Surgery. Cancer, Vol. 4, No. 1, pp. 110-119, January 1951.

[5]Ward, G. E. and Robben, John O.: A Composite operation for radical neck dissection and removal of cancer of the Mouth. Cancer, Vol. 4, No. 1, pp. 98-109, January 1951.

[6]Edgerton, M. T.: Surgical Forum. Clinical Congress of the American College of Surgeons, 1953.

[7]Edgerton, M. T.: One stage resection and reconstruction of the cervical esophagus. Surgery, February 1952.

[8]Conley, J. J.: One stage radical resection of the cervical esophagus, larynx, pharynx and neck with immediate reconstruction. A.M.A. Arch. Otol. *58*, No. 6, 645-654, Dec. 1953.

[9]Negus, V. E.: Reconstruction of pharynx after pharyngo-oesophago-laryngectomy. Br. J. Pl. Surgery *6*, 99-101, July 1953.

[10]Moore, F. Y. and Faulkner, T.: Repair following Pharyngo-oesophago-laryngectomy. Br. J. Pl. Surgery *6*, 102-114, July 1953.

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WEDNESDAY, OCTOBER 27

***Interim Meeting* of the**
Rhode Island Medical Society

PROGRESS OF OBSTETRICS DURING THE PAST FIFTY YEARS*

HAROLD H. ROSENFIELD, M.D.

The Author. *Harold H. Rosenfield, M.D., of Boston, Massachusetts. Chief of Obstetrics and Gynecology, Beth Israel Hospital; Assistant Clinical Professor of Obstetrics, Harvard Medical School; Lecturer in Gynecology, Tufts Medical School.*

THE PURPOSE of this paper will be to trace briefly the progress in obstetrics during the past half century, and then attempt to evaluate some of the newer present-day trends which are receiving such widespread publicity, particularly in the lay journals and also in medical publications. I refer of course to "Childbirth Without Fear" and "Natural Childbirth."

As the result of the enormous progress in research, which gave us our sulfa drugs, the antibiotics, the blood banks, and the better understanding of the blood components, there has evolved a new and wonderful era in obstetrics.

The ideal of good obstetrics is to make it possible for the pregnant woman to go through her pregnancy, confinement, and puerperium in good health, and return to her home with a healthy infant. The proof of the magnificent strides that have been made in this country lies in the review of the few fundamental statistics.

From the National Office of Vital Statistics in 1915,[1] we find the maternal mortality in this country was 6.1 per 1000 deliveries. (Over six women in every 1000 deliveries died.) In 1947, this was reduced to 1.3 per 1000. This is the lowest maternal mortality rate for any country, large or small, and the lowest in the history of obstetrics. These figures come from the country at large and represent an average of all of the states. The figures were considerably higher in those states with large areas of backward population, and lower in the more progressive states. In 1900 the maternal mortality in Massachusetts was 3.9 per 1000 deliveries, and in 1948 it was 0.7 per 1000. These statistics also show that in the last thirty-two years the maternal mortality throughout the nation has been lowered 4¾ times and in Massachusetts in the past fifty years reduced 5½ times.[2]

*Presented at the 143d Annual Meeting of the Rhode Island Medical Society, at Providence, Rhode Island, May 5, 1954.

The overall stillbirth rate in 1922 was 39.2 per 1000 births. In 1947 it was 23.7 per 1000, a reduction of 40%. In 1900 the Massachusetts stillbirth rate was 40.7 per 1000. In 1948 the Massachusetts stillbirth rate was 19.3 per 1000, a reduction of over 50%. March 1st of this year marked the completion of four years of an obstetrical service at the Beth Israel Hospital in Boston. During this period there has been 8265 deliveries with a maternal mortality of 0. (One private patient left the hospital apparently well, developed phlebitis at home one week later and died suddenly of a pulmonary embolus.)

Statistics are always boring to an audience, but I know of no other way to adequately demonstrate the trend through any given period.

All of the improvement shown has been made possible because of a number of important factors, the sulfa drugs, antibiotics, the blood banks, and last but not least, better obstetrics. This latter requires some amplification. What is better obstetrics, and wherein has it done such an excellent job? The evolution of obstetrics during this past half century from the field of mid-wifery to its present position as one of the three major subdivisions of medicine, on an equal level with medicine and surgery, has brought about a clearer understanding of the specialty, with resultant changes in our concepts of treatment of the various complications of pregnancy. This treatment has two main objectives; first, prophylaxis to prevent as much as possible the advent of complications; and secondly, definitive treatment for complications that have developed.

The three principal killers in obstetrics have been puerperal sepsis, hemorrhage, and toxemia.

Puerperal sepsis has been reduced to the category of an almost obsolete disease. This accomplishment was taking place long before the advent of chemotherapy. The recognition of the principle of asepsis, the increased knowledge of the art of obstetrics, and the marked increase in hospital deliveries over home deliveries were responsible factors in this improvement. From 1900 to 1936 the death rate from puerperal infection at the Boston Lying In was one in 774 patients. In the six years, 1944 to 1950, with the advent of antibiotics, there has been one death in 32,600 deliveries attributed to puerperal sepsis at Boston Lying In.

It is important to re-emphasize that the elimination of this killer was accomplished not alone by antibiotics, but through a better knowledge of obstetrical procedures, increased hospitalization of patients, improved methods of asepsis and the use of adequate blood replacement. One of the chief sources of contamination in hospitals occurred in the postpartum period and was caused by attendant nurses carrying infection from one patient to the other in the performance of perineal care. It is interesting to note that today, due mainly to the shortage of nursing facilities, patients are taught to perform their own perineal care from the first postpartum day on. This is being done with great satisfaction to the patients. She keeps her perineum cleaner and avoids the painful trauma of the attendant with a heavy hand. Since each patient has her own tray and solution for this perineal care, dangers of cross infection are eliminated. The routine prophylactic use of antibiotics intra- and postpartum is unwarranted.

Killer #2, *hemorrhage,* is meeting a fate similar to that of puerperal sepsis. Our increased knowledge of the various blood grouping factors has made blood replacement a relatively safe procedure. The establishment of well-equipped blood banks in all maternity hospitals is a recognized primary requisite. The availability at all times on the delivery floor of at least one unit of 0 negative blood with neutralizing solution is a must for the acute hemorrhage. This takes up the slack while cross matching is being done and proper blood is obtained from the bank.

The present-day knowledge of hemorrhage due to coagulation defects brought about by fibrinogen and prothrombin deficiencies and its prompt recognition by the test tube clotting peculiarities, has saved many lives. The work of Moloney[3] and Weiner[4] and others has amply demonstrated the need for the availability of fibrinogen in all maternity units. Not withstanding the possibility of subsequent hepatitis, when one is faced with the danger of death from hemorrhage due to afibrinogenaemia, one is justified in using fibrinogen promptly. With relatively few exceptions, it is safe to conclude that death from hemorrhage in obstetrics is largely preventable today, with the exception of the rare blood dyscrasias which as yet defy treatment.

In the first trimester of pregnancy, the chief causes of hemorrhage are abortion, miscarriage, and extra-uterine pregnancy. With due regard to the recognized procedures for controlling the bleeding of abortion and miscarriage and with sufficient blood replacement, there is little danger from these sources today. The early diagnosis of extra-uterine pregnancy and the prompt invasion of the abdominal cavity, plus adequate blood replacement, has reduced mortality to almost a negligible figure. The importance of early intervention must be stressed. Unlike other surgical emergencies, where patients are treated for shock and hemorrhage, and where general improvement in the patient's condition is awaited prior to performing surgery, in extra-uterine pregnancy, invasion of the abdomen should be carried out at once, while at the same time all known methods for combating shock and hemorrhage are instituted. In these instances improvement is noticed immediately following the clamping off of the bleeding point and recovery is prompt and uneventful, following adequate replacement of blood loss. Much valuable time is lost and even death may ensue waiting for general improvement prior to operating. Hemorrhage in the last trimester of pregnancy results from placenta previa, premature separation of the normally implanted placenta, a ruptured marginal sinus, or a vasa previa. The treatment of these complications is well known to those interested in obstetrics. It is pertinent however to suggest that in the management of the patient with premature separation, it seems important to rupture the membranes early, regardless of the procedure instituted to terminate the pregnancy. Weiner, et al,[5] believes that the release of the intra-uterine pressure does much to prevent the onset of afibrinogenaemia.

Experience in the past decade has shown that if hemorrhage from premature separation is not alarming and the cervix favorable, delivery from below is the procedure of choice. Caesarean section is resorted to if the bleeding is alarming. The fetal mortality is high, owing to the fact that this condition is one that develops rapidly and the fetal heart has frequently disappeared before the patient is seen. With an active fetal heart, one may favor section over delivery from below in the interest of the fetus. We have learned with certainty that the Accouchemont Forcé of fifty years ago has no place in this obstetrical complication.

Central placenta previa is now rather universally accepted as an indication for Caesarean section in the interest of the mother and fetus. This follows the discarding of the procedures of the past, namely, Accouchemont Forcé, and the Braxton Hicks Internal Podalic Version. The maternal mortality rate in this complication has dropped from 5% to about 1%. The overall fetal mortality rate remains high owing to the very nature of this condition, to prematurity of the fetus, and the high incidence of hyaline membranes disease in these infants. The decision as to the type of Caesarean section indicated must depend upon the individual patient. If the placenta is felt on the anterior wall of the lower segment through which one must pass if the low flap operation is to be done, it would be much safer to utilize the low classical procedure. Otherwise there is no valid objection to the performance of the lower segment section. Diagnosis is aided by x-ray placentography. The marked lowering of

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maternal mortality in this accident can be attributed to the prompt replacement of blood loss, better surgery, and the insistence on the double set-up procedure in making this diagnosis.

There is a definite tendency toward conservative treatment of placenta previa with moderate prematurity of fetus, where bleeding is not alarming and shows a tendency to stop. Two to four weeks added growth would make considerable difference in the chances for the premature baby to survive. In these instances it seems advisable to treat these patients conservatively and refrain from doing vaginal or rectal examinations for fear of starting renewed bleeding. The financial burden of hospitalization for two to four weeks prior to delivery presents one of the important problems. In certain cases, after all bleeding has ceased, these patients may be transported home by ambulance. They are previously alerted to the importance of absolute rest and to the necessity of having available at all times, facilities for prompt return to the hospital if any bleeding occurs. In this way many babies have been saved that might otherwise have succumbed because of prematurity. The treatment of marginal sinus bleeding must be individualized as is that of partial premature separation of placenta. Mild bleeding with a dead fetus and a favorable cervix spells delivery from below. However, in the interest of a live baby one may well elect to delivery by Caesarean section since it is impossible to prognosticate the imminence of massive separation with death of fetus.

In the very occasional patient that fails to respond to adequate treatment for hemorrhage and shock one must be alerted to the possibility of adreno-cortico dysfunction caused indirectly by the acute hemorrhage. The prompt administration of cortisone would be a life-saving procedure.

In view of the marked increase in the safety of the Caesarean section, it has become necessary to re-evalute the indications for this procedure.

In the early part of this century in the carefully selected cases, the maternal mortality for this operation was 5%. This figure has since been reduced to 0.5%. The present relative safety of this procedure has been brought about by several factors, mainly the general improvement in surgical technique, the low flap operations, the antibiotics, and the availability for blood replacement. With this improved safety we have witnessed a steady increase in the incidence of this procedure. This ranges at present from 2% to 15% in various clinics throughout the country. I believe an incidence of 5% to 7% seems to be justified. It is unfortunate that most of the reported series give inadequate statistics. One can not properly evaluate any Caesarean statistics without knowing the maternal mortality rate, the corrected fetal mortality and fetal morbidity, the neonatal death rate, the fetal injuries, the trauma to maternal soft parts, the necessity for future plastic operative procedures to correct the injuries to the pelvis organs and vaginal outlet. One should go even further than this and record the physical and mental development of the child over a period of years.

We might find that the clinic showing a low section rate would be doing so at the expense of the well being of the mother and baby. This of course is not justifiable.

The controversy still exists concerning the necessity of doing the Waters' or extra-peritoneal section in the presumably, and obviously infected cases. It is our practice to perform the routine low flap section with the use of antibiotics in the presumably infected cases and to rely on the extra-peritoneal section for the obviously infected patient. The time has not yet arrived when one can feel certain that any infection will be controlled by antibiotics.

Killer #3—*Toxemia.* At the beginning of this century, Reynolds reported that eclampsia occurred once in every 400 deliveries. In the last six years, at the Boston Lying In Hospital, it occurred once in every 1636 deliveries. In the past four years at the Beth Israel in Boston, there were 8265 deliverers. There were nine cases of eclampsia.

This marked improvement in the incidence of eclampsia is due chiefly to the recognition of the importance of prenatal care. While the incidence of pre-eclampsia is still relatively high, the better understanding of water and electrolyte metabolism in general, and the particular changes in this respect taking place in pregnancy, has made it possible to institute adequate treatment to control this disturbance and where necessary to terminate the pregnancy before eclampsia develops.

Dieckman[5] has shown the basic clinical fact that normal pregnant women store water and sodium. The most serious form of this retention occurs in the extra-vascular spaces of the tissues and organs of the body. It is well-recognized today that a rapid weight gain in pregnancy spells fluid retention. If this is allowed to continue the danger of the development of pre-eclampsia is a real one. Therefore it is important to restrict sodium intake generally throughout the prenatal period to combat excessive water retention early, by rest, a low sodium diet (200 to 400 mgm. daily) and the use of diuretics such as ammonium chloride and if necessary the mercurials, in the absence of renal disease.

The newer classification of hypertensive disease in pregnancy[6] is a definite improvement. This recognizes three groups: (1) Essential hypertension with pre-existing vascular disease, (2) Renal disease (with or without hypertension), (3) Pre-eclampsia and eclampsia. Renal disease complicating pregnancy is most serious and offers the great-

est problem. The patient with severe chronic nephritis rarely becomes pregnant because of lowered fertility. However, if such a patient is seen early in pregnancy with evidence of marked impairment of renal function, the decision to interrupt this pregnancy in the interest of the mother is valid. If this is not done, these pregnancies usually terminate prematurely with a dead fetus, or one that succumbs in the neonatal period, and nothing is gained but an increase in the renal pathology of the mother.

The real problem arises in the patient with mild pre-existing chronic nephritis whose kidney function appears reasonably normal in the non-pregnant state. The stress and strain on these kidneys brought about by the added burden imposed by a developing pregnancy, brings out definite evidence of renal dysfunction. These are the cases that demand careful and intelligent handling by the obstetrician. With the realization of the heavy toll this condition imposes on the fetus and the increased impairment to renal function of the mother, the added importance of obtaining a viable child with the existing pregnancy, is very apparent.

Since the scope of this paper was to deal with the changing concepts in obstetrics rather than with various complications, time will not permit me to go into more detail on present day treatment of toxemias, but rather touch here and there on the important improvements that have occurred.

The marked reduction in the incidence of eclampsia is due in great part to the prevention of pre-eclampsia by adequate prenatal care and by the intelligent, prompt treatment of the patient that has developed pre-eclampsia in order to prevent the occurrence of eclampsia. In addition to the recognized procedures of today, the use of the hypotensive drugs, such as alkaloids of veratrun alba,[7] shows much promise.

In a rather rambling manner I have attempted to point out some of the reasons for the marked improvement in obstetric statistics today. This improvement has been steady and effective to the point that having a baby today has become a safer procedure than at any time in the history of obstetrics. However, during the past three or four years certain well-established procedures and principles have been challenged. These procedures have been developed after years of careful research and clinical application. At the outset I mentioned that one of the contributing factors responsible for our remarkably low maternal mortality, and the 40% to 50% drop in fetal mortality, was due to better obstetrics. Under this heading falls the relief of pain during labor by the intelligent use of medication to produce amnesia and analgesia and the use of perineal or outlet forceps and episiotomies, to spare the mothers' soft parts and to relieve considerable pressure on the fetal head during the last hour or two of forceful labor.

There are many other procedures involved, but let us consider these for the present since these have been particularly challenged by the proponents of so-called "Natural Childbirth" and "Childbirth Without Fear." This to me is of basic importance because, at a time when obstetrics is enjoying its golden era, we are being bombarded in the lay press particularly, to return to discarded procedures which were practiced at a time when this country was ashamed of its statistics in obstetrics. I consider myself fortunate to have been trained in obstetrics during the period when "Natural Childbirth," without the benefits of sedation, was the universal practice. I refer to this as the era of rugged individualism and one to which I have no desire to return.

I recommend for your reading the excellent article written by Doctors Duncan Reid and Mandel Cohen[8] of Harvard on this subject. The central purpose of their paper was "to analyze critically the methods suggested and to determine whether or not they have any scientific or practical virtues as related to present obstetric management and hospital procedure."

Theirs was an exhaustive study of the available literature to find some scientific proof to back up the statements of the proponents of "Natural Childbirth" and "Childbirth Without Fear."

To these authors the claims for the newer methods posed seven questions and I quote them: "1. What scientific grounds are there for current statements to the effect that childbirth among primitive and uncivilized women is easy, not uncomfortable or complicated and that recovery is rapid when compared with that of civilized women receiving modern obstetric care? 2. Are labor contractions actually painful? 3. What are some of the implications of the term prenatal influences? 4. Is pain during childbirth psychologically necessary for the mother? 5. Does the infant suffer psychologic damage from routine hospital nursery care? 6. Are special methods of infant feedings necessary for the ultimate happiness and psychologic health of the newborn child? 7. Should the present methods of the conduct of labor be replaced by the Natural way?"

I wish time permitted detailed discussion of each question since their answers must point out the logical path to follow. The conclusions drawn by these observers based upon a most exhaustive study of all the available literature on the subject are worthwhile quoting in detail.

1. "There is a current myth which states that primitive women have babies with greater ease and less pain than do modern women. Examination of the anthropologic literature shows that there is

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absolutely no factual basis for this notion.

2. "Many ideas, such as the effect of prenatal maternal influences on the infant, concerning the relationships of mother and child have appeared over the ages. Some of these ideas are valid and some are not.

3. "Extravagant claims have been made recently which suggest (a) that labor really is not painful or (b) that it is painful but that the pain is psychologically necessary for the mother. Some persons may hold both views, although they seem to be mutually contradictory. There are no factual data to support these notions.

4. "It has been stated that psychologic harm accrues to the child raised in the nursery and not at his mother's bedside and that without non-scheduled breast feeding the child may have a blighted psychologic future. These claims are not based on substantial data and may be frightening to the mother."

Speaking as one who has practiced obstetrics and gynecology for the past thirty years and witnessed its progress, I find it difficult to accept some of the tenets of the proponents of the "new look." I believe there is a definite need for psychology and psychiatry in our obstetric armentarium, for certainly one cannot do justice to a patient without due regard for mental as well as her physical health. In obstetrics particularly, where so many psychological disturbances are prone to arise, complete care must include psychiatry. This does not mean, however, that pure psychologic speculation should dictate obstetric procedures. For example, it is difficult to accept the assumption that a mother-child relationship is disturbed if the mother is robbed of that "most wonderful of all experiences," the experience of labor, seeing her baby as it is born and hearing its first cry. Yet, from this assumption we have seen the advent of "Childbirth Without Fear" and "Natural Childbirth." From the assumption that if a newborn child does not have the continuous comforting attention of its mother during its first week of life, certain psychological traumas occur which in later life may result in various frustrations. This pure assumption has been treated as though it were an established fact and from this our present day "Rooming-In" has developed. It may develop that these concepts are correct, but surely more scientific investigation is necessary. We must think twice before abandoning procedures like perineal forceps and episiotomies which have been proven beneficial after adequate clinical trial and investigation, and return to so-called natural processes with its injuries to maternal soft parts, and increased fetal morbidity. This, I believe, is a definite step backwards.

I think it is significant that during the past twenty-five years since various methods for the relief of pain in labor have been used, there has been a steady and marked decrease in both maternal and fetal mortality. We have seen the babies that we have delivered of mothers under sedation, grow normally, physically, and mentally. They compete favorably with other children throughout their school years. I can find no scientific evidence to show that a disturbed relationship between mother and child developed as a result of these procedures. A long-range experimental study is under way at the Beth Israel Hospital which we hope may give us some much needed information. Our prenatal service is closely integrated with the departments of Psychiatry and Social Service. It is well-recognized that even under normal circumstances, pregnancy is a major psychological event in every mother's life.

Our interest is directed primarily toward the average mother and the psychological adjustments she faces in regard to pregnancy and motherhood. The screening out of mothers with frank psychiatric symptoms presents nothing new, since this has always been done. The Department of Psychiatry has trained an obstetrical social worker in methods of screening. When problems are discovered, she presents the case history to the psychiatrist, who in turn advises the social worker as to her approach in handling this problem. In this way the patient with minor problems receives psychiatric advice indirectly through the social worker. If problems are more acute, the patient is seen by the psychiatrist and receives proper treatment directly.

We have found that with proper psychological techniques, the mothers during the prenatal period are particularly accessible and responsive to psychological work.

We hope that follow-up studies will confirm an impression that mothers in the prenatal period can be helped by this approach, in a way that will have value more constructive and more lasting than can be offered by methods that are more exclusively supportive in their design.

BIBLIOGRAPHY

[1]National Office of Vital Statistics: Public Health Service.
[2]Irving, Frederic C.: N. E. Journal of Medicine. Vol. 244, No. 3, Jan. 1951.
[3]Moloney, William; Egan, William J.; Gorman, Arthur J.: Acquired Afibrinogenemia in Pregnancy. April, 1949. Vol. 240, No. 15.
[4]Weiner, A. E. et al: Coagulation Defects Associated with Premature Separation of Placenta. 1950. American Journal of Obstetrics & Gynecology. 60-379.
[5]Dieckman, William J.: Toxemias of Pregnancy, Second Edition. C. V. Mosby Co. 1952.
[6]Tenney, Benjamin: N. E. Journal of Medicine. Hypertension in Pregnancy. Dec. 31, 1953, 1108.
[7]Meilman, Edward: Clinical Studies on Veratrun Alkaloids. J.A.M.A., Oct. 10, 1953, p. 540.
[8]Reid, Duncan; Cohen, Mandel: Evaluation of Present Day Trends in Obstetrics. J.A.M.A. March, 1950, volume 142, page 615.

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OF CIGARETTE SMOKING — OF LUNG CANCER

THE GREAT INTEREST in the relationship between cigarettes and lung cancer led us to ask two members of our editorial staff to write on this question. There was no collusion between them. Each retired to his ivory tower and put his thoughts on paper. We decided to combine these papers into one editorial. We made no changes except to delete a little material to avoid repetition. You will see that the union of these two articles really makes a homogeneous whole.

This modern world is a world of marvels. It is not a great exaggeration to class among these marvels the increase in cigarette smoking in the last half century or more.

Cigarette smoking was certainly in poor repute in the 1890's. A real "he-man" smoked a pipe, cigar, or chewed tobacco. To the public, at large, a typical male cigarette smoker was an effeminate type of fellow. As for the women, few of them smoked unless they were of the very low social grade or were wicked. There is no need to tell you of the present picture.

None of the great industries realized quicker or more thoroughly the absolutely irresistible power of advertising and publicity than did the tobacco manufacturers. They had increased cigarette smoking very materially before the First World War. Then there was a tremendous upsurge. It was almost as important to get cigarettes to the AEF as it was to get ammunition, and from then on the flood has been, until recently, irresistible.

Then something dire happened—we are speaking now from the viewpoint of the cigarette industry. Anesthesia and surgical techniques developed so that the interior of the chest began to be examined more and more, and with the cooperation of the pathologists it was soon realized that cancer of the lung, instead of being a rare condition, was a common one. Naturally this situation was inquired into. As everybody knew, cigarette smoking and coughing were associated and it was not remarkable that lung conditions and smoking were soon examined statistically. Dr. Evarts A. Graham of St. Louis, who was a pioneer in surgery and lung cancer, was soon impressed by the relationship between this and cigarettes, and early issued a report that there seemed to be a case of cause and effect.

The evidence also is strong that smoking has an

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adverse effect upon the arteries. Possibly pipes and tobacco may not plead innocent here, but cigarettes once again have to take their share of the guilt. We have not the knowledge of the exact statistics right with us, but it would seem that in quantities consumed cigarettes must lead.

These are the two arguments stressed in the campaign against cigarette smoking. It would seem to us that the effect on the nervous system is fully as strong an argument. There is a vicious circle here —cigarette smoking makes people nervous—nervousness makes people smoke cigarettes. We think that a large part of cigarette smoking is simply a nervous reaction. It is much like the sucking of the thumb by children. In fact, psychiatrists have advanced the argument that sucking a cigarette and sucking a thumb are one in the same subconscious reaction.

It is surprising that cigarettes have the widespread popularity they do. In themselves they are distasteful to a non-smoker. The habit must be acquired. A natural repugnance to the aroma and the initial vertiginous and nauseating effects have to be overcome. In spite of this, each new generation cannot wait to sneak a smoke behind a barn, under stairs, or in the privy. One wonders how much juvenile delinquency can be laid at the door of cigarette smoking; how much loss of ambition; loss of powers of concentration; how much unnatural stress on the less important aspects of education in our high school students can be attributed to the early cigarette smoking which now is common.

The evidence has long been that cigarette smoking has a direct deleterious effect and possibly in some instances a distinct etiological relationship to peptic ulcer, peripheral vascular disease, and disorders of nervous systems. The psychological block it produces initially in our youths has not as yet been evaluated. Let us hope it soon will be.

To add to the list of serious organic diseases significantly related to cigarette smoking, we can now add cancer of the lung. It makes no difference now that all-conclusive proof of cigarette smoking as a sole factor in the cause of carcinoma of the lung has not been established. Such a conclusion may never be warranted. There is direct and conclusive proof that cigarette smoke contains carcinogenic agents. Experiments with tars obtained from ordinary cigarettes have produced carcinoma in 44 per cent of 81 mice when applied to the backs of these rodents. Controls did not cause cancer in this experiment. As scientists we must accept this fact at this time.

There are now sufficient statistics to show that an overwhelming per cent of people with cancer of the lung have been cigarette smokers. There is more cancer of the lung in heavier smokers than light smokers; there is a relative insignificant incidence of carcinoma of the lung in non-smokers. The carcinogenic agents in cigarette smoke may not cause cancer of the lung, but they now must be considered as an important factor. A factor which must be present before cancer of the lung will occur.

With cancer of the lung increasing alarmingly each year, with it now being the most common cancer in the male, the indications are that unless we change something, our pattern of living perhaps, it will continue to increase and be more devastating. If we accept the popular Cohn theory of Cancer Etiology, i.e., irritation causing growth of a previous embryonic cell arrest, we cannot be surprised at the increase of cancer of the lung.

There are enough respiratory irritants in the air without adding concentrated carcinogenic agents in the form of cigarette smoke.

The increased incidence of lung cancer has occurred during the great industrial development of the world. It has accompanied the mechanization of farm equipment, the increase in automobile and other automotive exhaust fumes, the increase in the use of petroleum and its products for heating, air travel, etc. Quite possibly all of these have contributed carcinogenic agents to the air. But the evidence seems to be that if they do, they have far less effect on non-smokers than they do on smokers. It is conceivable that statistics may show that the chances of a non-smoker or a smoker getting carcinoma of the lung to vary with the quality of the industrial smokes and automotive exhaust fumes, or home or business oil consumption, in any given locality.

Regardless of this possibility, the horror remains that cigarette smoking is indicted, as the *sine qua non* in this treacherous assault on our physical integrity.

With this present knowledge acceptable, the tenacity with which people cling to cigarette smoking as a prop for their stability is indeed surprising. It is equally surprising that there are physicians who refuse to accept the evidence available and fail to lend moral support to those who are looking for intelligent guidance.

As physicians, as scientists, it would seem that we have but one course to follow at this time. We should accept the evidence, so advise our patients, being mindful and perhaps hopeful that all of this furor will result in the discovery, isolation and removal of the carcinogenic factors in cigarette smoke.

Let's admit it, as of now the filthy weed is harmful.

OSTEOPATHIC EDUCATION

At the recent meeting of the American Medical Association a report accepted from the committee for the study of relations between osteopathy and medicine maintained that "the justification or lack

of justification of the 'cultist' appellation of modern osteopathic education could be settled with finality and to the satisfaction of most fair-minded individuals by direct on-campus observation and study of osteopathic schools." The committee proposed, therefore, that each of the six approved osteopathic schools be visited this year by two members of the conference committee accompanied by an individual of established experience in inspection of medical schools.

At its annual convention in Toronto in July, the delegates of the American Osteopathic Association authorized its committee to negotiate with the AMA committee on possible visitation by it of the osteopathic schools. The purpose of the visit, the osteopaths declared, would be to observe the nature and scope of their education programs, the observation to be conducted entirely within limits agreed upon by the two committees.

Presumably this action will afford the first opportunity for inspection of the osteopathic schools on the basis that medical schools are inspected and thereby approved or disapproved. Certainly this inspection will not be as complete as one made of a medical school, for we note that the "observational opportunity would be conducted entirely within limits agreed upon by the two committees." We hope that the cooperation will be complete.

While the observation of osteopathic teaching programs by the conference committee may be helpful in resolving justification or otherwise of the appellation "cultist" to osteopathy, it still will not resolve the issue that has faced the medical profession in our states as regards the relationship of osteopathy to medicine.

Our Dr. Charles L. Farrell, in his treatise on the subject submitted to the members of the AMA House of Delegates, points up the whole problem as follows:

Medicine has not reached the point where it has to compromise its principles in order to make life easier for some doctors, or to save them embarrassment in certain local situations. When osteopathy is ready to disavow its dogma that the osteopathic lesion is the basis of its pathology, and that the correction of the "lesion" is the principle on which their science of osteopathy is based, then will be the proper time to talk about cooperation in elevating the standards of osteopaths to those of regular practitioners of medicine. That will be the time when cooperation will be possible.

All other sectarian schools of medicine have recognized this principle, and there has been no compromise on the part of medicine regarding the poor quality of medical training given in second-rate and third-rate medical schools. There should be none regarding osteopathy.

Certainly the American Medical Association and the American Medical profession does not need to include osteopaths in their sphere of influence in view of the official attitude of the Osteopathic Association in reaffirming their determination to maintain their integrity as a separate school of medicine. We should not be put in a position of making concessions to osteopathy.

HEALTHY SCHOOL CHILDREN

In this issue of the *Journal* we present an abstract of the excellent talk given by Doctor Donald A. Dukelow, consultant in health and fitness, of the Bureau of Health Education of the American Medical Association. Doctor Dukelow came to Rhode Island at the time of our annual meeting in May to address the first meeting on record of the physicians of the state directly involved in school health programs.

Perhaps we have taken many of our local programs for granted for too long, assuming that they are achieving a maximum result, and are coping effectively with the problems that continually arise with the changing of methods and procedures in health and medicine. Therefore, it is with a good deal of interest that we heard Doctor Dukelow outline what has been done in other parts of the country to develop the school health services. His presentation which we now publish should be read by every doctor.

Many of the activities that Doctor Dukelow has outlined as being tasks the medical society can undertake have certainly been developed to some extent here during the years. However, we recognize the need for continuous evaluation of our work, and we certainly stand ready to take a livelier interest in the school health programs in Rhode Island, particularly programs for school districts outside metropolitan areas.

Our Child Health Relations Committee has taken on the assignment to review the school health policies. Doctor Dukelow has set forth some interesting functions to set a workable pattern. We shall look to much progress in the work in the coming months.

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The United Community Campaign is an important factor in providing the money necessary for the useful services that play such important roles in benefiting our communities. Here in Rhode Island the Community campaign has failed for the past few years to achieve the financial quota set in advance on the basis of efficiently planned programs. This year we hope to see the fund go "over the top" by a sizable margin. It can only do so with the wholehearted support of every Rhode Islander.

SCHOOL HEALTH IN ACTION*

DONALD A. DUKELOW, M.D.

The Author. *Donald A. Dukelow, M.D., of Chicago, Illinois. Consultant in Health and Fitness, Bureau of Health Education, American Medical Association.*

PHYSICIANS and their medical societies are interested in school-aged children, in their health protection, in their education for living and in the environment in which they live. However, it is easy for the physician, busily occupied with the sick, to permit those in education and public health to assume his responsibility for the well, who make few demands on his time.

When the practicing physician participates actively in the school health program many are benefited. The child benefits through better medical care and better advice on healthful living. The school benefits through a better channel for the exchange of information which leads to healthier children, as well as through close liaison with physicians. The physician benefits through the broad understanding of children and their families that comes from solving school health problems. And the medical society (to say nothing of its members) reaps the benefit of improved public relations and interprofessional relations.

What is the School Health Program?

All of the professions concerned in any way with children of school age also are concerned with their health. Physicians and dentists; such educational personnel as administrators, teachers, specialized supervisors, and counselors; such school staff as custodians, bus drivers and lunch-room personnel; the professions nominally found in the health department; and parents—all of these play a role in the school health program. When their roles complement each other the group becomes a well-coordinated team with the healthy child as its objective. Then much can be accomplished with a minimum of effort. When the persons involved develop professional jealousies, are uninformed on the abilities and responsibilities of the others and unwilling to have them perform their share of the school health program, the child learns little about healthful living, receives health services in a random fashion and lives in a tense emotional environment.

The program this team conducts in the school community is arbitrarily divided into three areas,—health education, healthful school living and health services. The distinction between these is not sharp and at a given instant education and service, or service and school living, or some other combination of these may be the responsibility of the same person.

Knowing that so many professions are related to school health and that the school health program embraces education, environment and service, the need for teamwork and the development of coordination becomes obvious. Where there is a well-organized medical society, this society or its school health committee may become the spokesman for the physicians of the community in the coordinating committees establishing the policies for the school health program. In smaller communities the physicians practicing there may sit down with school and health department personnel and in the same way establish sound school health policies. The resulting school health program should be acceptable to all parties, meet the needs of the community for which it is designed, and use the available local resources before developing new ones. And in each case a recognition and respect for the professional prerogatives of the other fellow helps smooth the way.

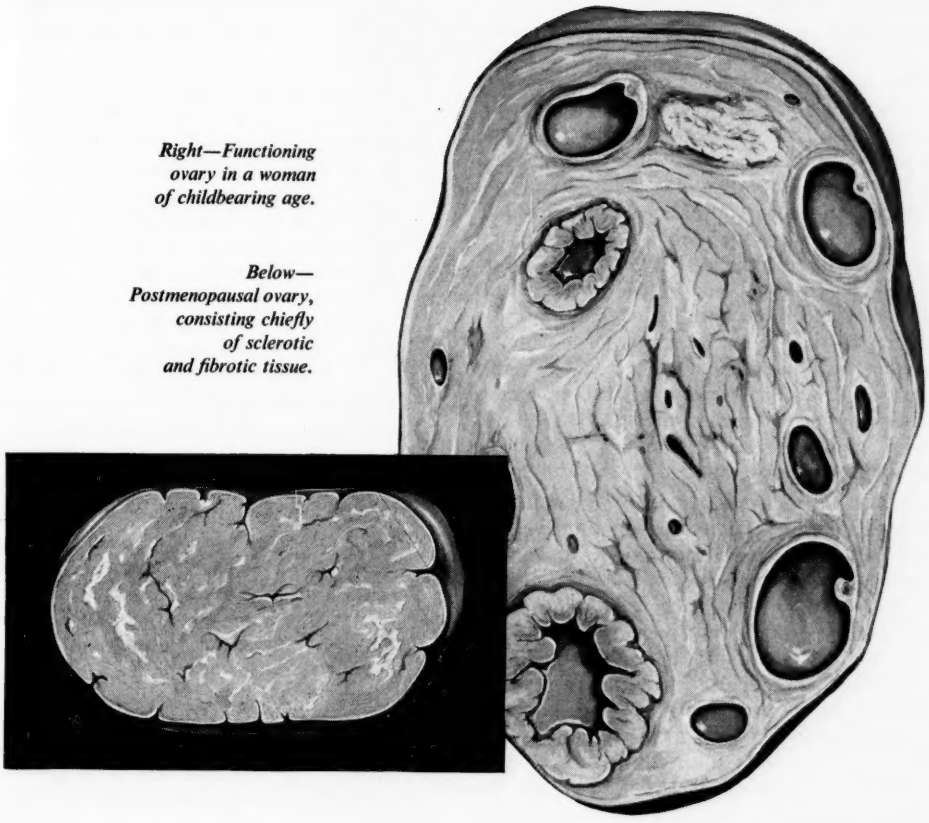
Areas of Health Service

Since physicians have more interest in health service than in other phases of the school health program let us explore the most common service areas. Others exist but these five, set forth in the report of the Third National Conference on Physicians and Schools[1] are basic.

1. *Health appraisal* is a team job involving as a minimum weighing and measuring and screening tests for vision and hearing in the classroom; review of a record of the teacher's and nurse's observations of appearance and behavior; and a medical examination by a physician. If performed by a school physician this is a screening type examination to detect conditions needing referral to the family physi-

continued on page 508

*An abstract of an address given to Rhode Island School Physicians Association at the 143d Annual Meeting of the Rhode Island Medical Society, at Providence, Rhode Island, May 5, 1954.



Right—Functioning ovary in a woman of childbearing age.

Below—Postmenopausal ovary, consisting chiefly of sclerotic and fibrotic tissue.

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[1]Sturnick, M. I., and Gargill, S. L.: Clinical Assay of a New Synthetic Estrogen: Vallestril, New England J. Med. *247*:829 (Nov. 27) 1952.

SEARLE Research in the Service of Medicine

SCHOOL HEALTH IN ACTION

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cian and to appraise the health status of the child. If done by a family physician in his office it may be a diagnostic examination as a prelude to any needed treatment or advice. In either case the physician should have the school's data on the child before examination and return to the school his findings and recommendations for adjustment of the school program to meet the child's needs. Such an appraisal is recommended at the time of entering first grade, on leaving twelfth grade and two or three times between. More or fewer appraisals may be made in accordance with the medical man hours available for school health service. Usually interim appraisals or examinations are made when the school refers to their family physician for care, individuals who appear to need help.

2. *Sudden illness and accidents* occurring at school should be planned for in advance. First aid kits in strategic locations with faculty members who know how to use them are essential. A cot in a quiet corner for protection or isolation pending transportation is desirable. The child's school health record should include the home and business address and phone number of the parents and the phone number and address of a relative or neighbor willing to accept the child until the parents can be reached. For more serious conditions, the phone number of the family doctor and his alternate, permits prompt care. A written and posted plan of action prevents confusion in an emergency and protects the child.
3. *Physician services to the physical education and athletic programs* insure further protection of those who should have limited physical activity or have been injured in play. Most schools can fill the physician's prescription for modified physical education so the "blanket excuse from gym" is no longer in vogue. Whenever hazardous sports are played a physician should be present, and an injured player should resume play only on the advice of the physician.
4. *Communicable disease control,* once the sole reason for a school health program, is now of secondary importance. Nevertheless, booster doses of immunizing agents are necessary in the elementary years to maintain the protections begun in infancy; tuberculosis case finding is still necessary, the pest diseases and infestations still need supervision and colds cause absences with loss of school revenue. For the protection of the sick child himself, some form of isolation during suspected communicable illness is desirable, even though isolation after a disease develops is known to be ineffective in controlling its spread.
5. *Follow-up* through the home is important. When the findings of the health appraisal, the teacher's observations, and the injuries and illnesses suffered in or out of school suggest the need for physician care, some follow-up is needed to be sure it is obtained. The nurse serving the school, who may be employed by the school, the health department or a visiting nurse association, is trained for this type of family counselling. She is usually the liaison person who helps the parents realize the need for medical care when they are reluctant to provide the care that seems needed. In economically underprivileged families she guides the family to community resources that can meet the child's needs.

Briefly then, these are the *basic five* of a school health service program. Around these other activities may develop as the team concept grows. Physicians cooperating with such a program soon become acquainted with how the professions in education and public health may supplement their "medical care" with other forms of "health service." The resulting team approach means better health for the children in school.

Role of the Medical Society

Recent surveys show that medical societies consider "school health" to be part of the society's program. In one of these[2] state medical associations listed the school health activities they perform. Similar information was reported by the group discussing Medical Society School Health Committees at the Fourth National Conference on Physicians and Schools.[3] Medical societies seem to accept as their role in the school health program the following kinds of functions:

1. Participation in an interagency state school health committee,

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SCHOOL HEALTH IN ACTION

continued from page 508

2. Assistance in formulating procedures for referral of school children who appear to need medical attention, through parents to family physician.
3. Participation in formulating recommendations for the control of communicable diseases in school children.
4. Help design standards and procedures for the medical examination of school children.
5. Help formulate procedures for a two-way exchange of information about children between school health personnel and the family physician.
6. Participation in development of cumulative school health records.
7. Participation in developing patterns for assuring needed medical care for school children whose families cannot afford to pay for services.
8. Recommend standard procedures for emergency care of accidents and sudden illness at school.
9. Assistance in formulating policies for health protection of participants in intramural and interschool sports.
10. Assistance in development of standards for pre-employment and periodic health certification of school personnel.
11. Assistance in establishment of health appraisal standards including medical examinations, teacher's observations and screening.
12. Help formulate policies for handling of confidential medical information relating to the health problems of pupils and school personnel.

These dozen functions set the pattern. They could be augmented by twice as many or more. The important consideration is that whatever is done must be timely, must be done with due consideration for the other involved professions and agencies, must serve the needs of the community and use existing resources before inventing new ones.

When a school health committee becomes an active part of medical society organization it becomes a two-way channel for community relations. It interprets to the other professions in school health and to parents the medical viewpoint on school health services. Being in contact with others concerned with child health it learns and can interpret to the practicing physician the attitudes and hopes of the non-medical portion of the community. Furthermore, this committee becomes the society's spokesman in the interprofessional coordinating committees that delineate the policies that will guide the whole school health program into patterns of practice acceptable to all.

References

[1]American Medical Association: Third National Conference on Physicians and Schools. Conference Report, November, 1951. Chicago: the Association.

[2]Dukelow, D. A., and Hein, Fred V.: Medical Association Participation in Solving School Health Problems. J.A.M.A. Vol. 155, pp. 598-600, June 5, 1954.

[3]American Medical Association: Fourth National Conference on Physicians and Schools. Conference Report, 1953. Chicago: the Association.

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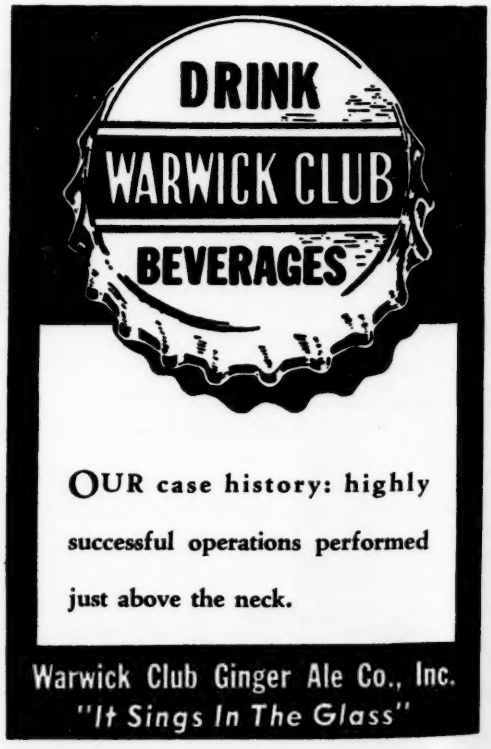
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BOOK REVIEW

A DOCTOR TALKS TO WOMEN by Samuel Raynor Meaker, M.D. Simon and Schuster, N. Y., 1954. $3.95

This well-known Boston gynecologist, not only a specialist dealing with women's reproductive organs, but also a physician well aware of the importance of treating the whole woman, has written a very clear and readable book, A DOCTOR TALKS TO WOMEN. It is "a book for intelligent women who want to learn about the working of their bodies, and in particular of their reproductive organs, in health and in disease."

Briefly, and with a few simple pictures he describes the reproductive organs—uterus, ovaries, pelvis, muscles of the pelvic floor. Then he takes up normal menstruation and the menopause, and follows with brief chapters on absent or insufficient menstruation, abnormal bleeding and painful menstruation. He uses no obscure medical terms which an ordinary lay person might not understand.

Then follow chapters on conception and pregnancy, fertility and sterility, planned parenthood, miscarriage, malformations, injuries, infections and tumors; benign and cancerous.

A woman about to undergo an operation would be reassured if she could read the author's description of the procedure that would be followed upon entering the hospital, when undergoing the operation and through recovery. Treatment by X-rays, radium and hormones is described.

By correcting the emotional disturbances which may underlie poor functioning of the body, many complaints of women (and men) may be cured, for we must remember "a patient is a human being with worries, fears, loves and hopes," living in a world where at times there is "conflict between the instincts implanted in all by God and the restrictions imposed by the various codes to which we are expected to conform."

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THE ROLE OF THE STATE DEPARTMENT OF HEALTH IN CANCER CONTROL

THOMAS H. MURPHY, M.D.

The Author. *Thomas H. Murphy, M.D., Medical Director, Division of Cancer Control, Rhode Island State Department of Health.*

THE State of Rhode Island took official cognizance of the importance of the cancer control problem when a resolution creating a commission to study the advisability of establishing a cancer hospital in Rhode Island was passed by the Legislature in 1938.

This commission studied the facilities available at the state institutions at Howard and consulted with the Massachusetts authorities who maintained a cancer hospital at Pondville. To further their investigation in Rhode Island, questionnaires were sent to hospitals and physicians for information about the prevalence and care of cancer cases.

From this study it was realized that there was not much information available about cancer at that time as only half the doctors and a few of the hospitals cooperated with the commission.

The importance of having information concerning the incidence of cancer for statistical purposes, in addition to its aid in a prevention program was herewith proven, with the result that in 1941 the General Assembly passed an act making cancer a reportable disease in the State of Rhode Island. The reporting of cancer began in July, 1941, and a cancer registry was established.

This is one of the functions of the Division of Cancer Control—to compile and arrange these reports for statistical purposes. The cancer registry is for the purpose of gathering figures on the incidence, cure rate, and death rate of cancer in Rhode Island. In this manner the medical profession will be able to evaluate the results in the continued battle against cancer in Rhode Island.

Doctors and hospitals are furnished forms designed to facilitate the reporting of cancer cases.

In 1942, another step was taken by the General Assembly in the crusade against cancer when an act was passed appropriating $17,000 for the beginning of a program to prevent and cure cancer in Rhode Island.

The act authorized the State Department of Health to establish a standard for the organization, equipment, and conduct of cancer units or departments in general hospitals in this State. The act also authorized the department to conduct an educational program for cancer control and to provide a plan for the care and treatment of indigent patients.

There is an annual expenditure of $10,000 for the care of indigent cancer patients in hospitals.

As specified in this act, the State Director of Health consulted with the Cancer Committee of the Rhode Island Medical Society, and under this guidance the program was initiated for the prevention and cure of cancer in Rhode Island. At the first meeting of this committee and the director of health, the following recommendations were voted:

1. That a Division of Cancer Control be established in the State Health Department with a doctor of medicine as the director.
2. That tumor clinics with minimum standards as defined by the American College of Surgeons be established.
3. That detection and diagnostic centers be established with standards as defined by the Division of Cancer Control.
4. That the Division of Cancer Control shall aid the Rhode Island Cancer Society in the education of lay people about cancer.
5. Whenever necessary the division shall supplement the indigent aid program already established by the Cancer Society.

These functions, recommended by the Advisory Cancer Committee of the Rhode Island Medical Society, are being carried out at present.

In 1943, the first Cancer Detection Center was opened at the Rhode Island Hospital. This was done on an experimental basis in an attempt to evaluate the need for such clinics in Rhode Island and to satisfy the existing public demand.

The demand was overwhelming, so that within three years there were five detection centers operating in the state. In a short time the clinics were forced to limit people to one visit because of the extensive backlog of appointments.

At this time it was decided by the cancer committee that the program would be more effective and reach more people by adopting the motto: "Every doctor's office a cancer detection center." Thus, the history and physical examination forms used in the clinics were sent to the doctors for use in their office.

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TABLE IV

Cancer Deaths in Rhode Island for 1953

By Site – Sex – Age Group

Int'l Code No.	SITE	Male	Female	Total	Under 1		1 to 9		10 to 19		20 to 29		30 to 39		40 to 49		50 to 59		60 to 69		70 to 79		80 to 89		90 to 99	
	Malignant neoplasm of buccal cavity				M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
140	lip	1	1	2																1				1		
141	tongue	6	1	7													3		1– 1		1		1			
142.1	salivary gland (other)	1	2	3																2	1					
143	floor of mouth	1		1																			1			
144	mouth—other parts	3	1	4															1			1	2			
145	oral mesopharynx	5		5													1		1		2		1			
146	nasopharynx		1	1														1								
148	pharynx—unspecified	9	2	11									1			1	1		3– 1		4					
	Malignant neoplasm of digestive organs and peritoneum (150-159)																									
150	esophagus	11	4	15											1		2– 1		3– 1		3– 2		1		1	
151	stomach	105	71	176							1– 1		3– 1		5– 6		21–11		34–16		28–21		12–15		1	
152	small intestine—including duodenum	2	12	14									1		1		1– 2		2		4		3			
153	large intestine—except rectum	75	85	160							1		2– 2		2– 2		11–14		15–29*		27–18		15–18		1–2	
154	rectum	47	34	81											3		12– 8		17– 6		12–10		6– 6		1	
155	biliary passages and liver	10	20	30											3		3– 3		1– 4		3–11		3			
156	liver (secondary & unclassified)	13	19	32							1						4– 2		2– 6		5– 8		2– 2			
157	pancreas	23	17	40											1– 1		5– 4		8– 6		9– 3		3			
158	peritoneum	2	1	3															2		1					
159	unspecified digestive organs	1	2	3													1				1		1			
	Malignant neoplasm of respiratory system (160-165)																									
160	nose, nasal cavities, middle ear and accessory sinuses	1		1													1									
161	larynx	8	3	11													4		1		3– 2				1	
162	trachea, bronchus, lung	58	10	68									2– 2		10		15– 1		22– 6		7		2– 1			
163	lung, bronchus—unspecified	52	16	68									1– 5		6–16		13– 2		21– 5		10– 7		1– 2			
164	mediastinum	4		4													3				1					
165	thoracic organs (secondary)		1	1																		1				
	Malignant neoplasm of breast and genito-urinary organs (170-181)																									
170	breast	5	124	129									6		24		19		3–33		24		2–16		2	
171	cervix uteri		36	36									2		5		1–10		8		8		2			
172	corpus uteri		1	1													1									
174	uterus unspecified		20	20									1		1		3		5		3		7			
175	ovary, fallopian tube & broad ligament		31	31							1		3		6		6		7		8					
176	other and unspecified female genital organs		8	8	2												1		2		2		1			
177	prostate	59		59													6		12– 1		31– 1		7		1	
178	testes	2		2									1		1											
179	other and unspecified male genital organs	1		1											1											
180	kidney	14	4	18											3		3– 1		3– 2		5		1			
181	bladder & other urinary organs	24	14	38											1		2		11– 5		6– 4		4– 5			
	Malignant neoplasm of other and unspecified sites (190-199)																									
190	skin	2	2	4											1		1		1				1			
191	other malignant neoplasm of the skin	3		3													1		1		1					
193	brain and other parts of nervous system	9	7	16			1		2				2			1	4– 1		1		3– 1					
194	thyroid gland	1	1	2											1							1				
196	bone (including jaw bone)	7	3	10					2– 2		2								1– 1		1		1			
197	connective tissue	2		2													1		1							
199	other and unspecified sites	43	76	119									1– 1		3– 6		9–19		9–20		15–19		6– 8		3	
	Neoplasms of lymphatic and Hemato-poietic tissues (200-205)																									
200	Lymphosarcoma & reticulosarcoma	2	3	5													1– 1		1– 1				1			
200.1	lymphosarcoma	3	2	5							1				1				1		2					
200.2	other primary mal-neoplasms of lymphoid tissues	4	6	10									2				2– 1		2		2		1			
201	Hodgkin's disease	11	13	24							3	2– 1	5– 1		3		2– 1		1– 3		1		1			
203	multiple myeloma	11	7	18							1				1		1– 2		6– 1		3– 2		1			
204	Leukemia and aleukemia	10	7	17					1		1– 1		1		2		2– 1		2– 1		2		2– 1			
204.1	Myeloid leukemia	7	6	13	1				1					1	2		1– 1		3		2– 1					
204.2	Monocytic leukemia	2		2															2							
204.3	Acute leukemia—unspecified type	1	1	2															1– 1							
204.4	Other and unspecified	2	1	3															1		1– 1					
	Totals	663	676	1339	1	2	1	2	9	9	5	21	22	39	65	137–118		190–182		189–167		68–99		5–8	

*unknown

ROLE OF STATE DEPARTMENT OF HEALTH IN CANCER CONTROL

continued from preceding page

All physicians in the State were canvassed and asked if they were willing to do these examinations in their offices. A list of consenting physicians was arranged by the Rhode Island Medical Society and distributed to hospitals and health agencies. People who inquired were furnished with a list of examining physicians.

At the present time there are three cancer detection centers at the Rhode Island Hospital each week and one each week at the Pawtucket Memorial Hospital. These are supported by the Cancer Division of the State Health Department in cooperation with the Rhode Island Cancer Society.

At these clinics, a history is taken and a complete physical examination is given by a staff physician. The examination also includes a chest x-ray, urinalysis, and blood serology.

The report is sent to the examinee's family physician. No treatment is given at the clinics. If treatment is indicated, the examinee is advised to visit her family physician. If she cannot afford private treatment, arrangements are made for treatment at a hospital clinic.

Cancer detection centers must be considered as a means to an end rather than an end in themselves. They must be considered as educational projects rather than a means to examine all the well persons in a community. Therefore, the problem resolves itself into two basic components:

1. The family physician must be considered the keystone in any cancer detection program, and give complete physical examinations to detect early cancer.
2. The general public must be educated to consult their family doctors to obtain periodic complete physical examinations. They should be educated as to the value of such examinations.

The education of the public to the importance of early cancer detection is a very important program. In 1953, there were 1,943 new cases of cancer reported by hospitals and doctors to this division and 1,339 deaths. According to these reports a large number of these cases were in advanced stages when they were diagnosed. This is a handicap to the physician who must attempt to cure them. If we can persuade the people to consult their family physicians at the first sign of illness and to have semi-annual physical examinations for the detection of early cancer, the effort will show good results.

In 1953, $10,154 was paid to hospitals in Rhode Island for the care of indigent cancer patients. The Visiting Nurse Associations in the state received $4,213 for care of cancer patients in their homes.

Another service offered by the Health Department is a tissue diagnostic service. Doctors and dentists can submit tissue specimens to the State laboratory for diagnosis in suspected cases of cancer. In 1953, there were 1,882 tissue examinations. Cancer was diagnosed in 168 specimens.

The following tables reveal the cancer incidence and mortality in Rhode Island for 1953.

TABLE II

Analysis of New Cancer Cases by Sex and by City and Town

– 1953 –

City or Town	Male	Female	Unknown	Total
Barrington	7	9		16
Bristol	19	10		29
Burrillville	8	11		19
Central Falls	20	25		45
Charlestown	1	2		3
Coventry	6	6		12
Cranston	52	77		129
Cumberland	15	18		33
East Greenwich	14	12		26
East Providence	37	40		77
Exeter		1		1
Foster	1	1		2
Glocester	2	3		5
Hopkinton	1			1
Jamestown	7	6		13
Johnston	13	21		34
Lincoln	9	11		20
Little Compton	1	1		2
Middletown	5	12		17
Narragansett	5	2		7
Newport	45	50	1	96
New Shoreham		1		1
North Kingstown	10	10		20
North Providence	20	11		31
North Smithfield	6	10		16
Pawtucket	81	100		181
Portsmouth	4	3		7
Providence	334	345	1	680
Richmond	5	5		10
Scituate	7	5		12
Smithfield	3	1	1	5
South Kingstown	9	10		19
Tiverton	2			2
Warren	2	9		11
Warwick	46	45		91
Westerly	8	7		15
West Greenwich	2	2		4
West Warwick	27	29		56
Woonsocket	43	56		99
Out of State	66	30		95
	943	997	3	1943

TABLE III

Analysis of New Cancer Cases by Age and Sex

– 1953 –

Age Groups	Male	Female	Unknown	Total
No Age Stated	7	6	3	16
00–09	8	2		10
10–19	4	6		10
20–29	19	21		40
30–39	36	63		99
40–49	77	150		227
50–59	197	221		418
60–69	270	271		541
70–79	234	178		412
80–89	80	72		152
90–99	11	7		18
	943	997	3	1943

TABLE I

Analysis of Cancer by Primary Site and Sex

— 1953 —

Code No.	Primary Site	Male	Female	Total
140	Lip	21	3	24
141	Tongue	16	2	18
142	Salivary Gland	2	3	5
142.1	Parotid Gland		1	1
143	Floor of Mouth	14	4	18
144	Other parts of mouth, unspecified	4	2	6
145	Mesopharynx	6	2	8
146	Nasopharynx	1		1
147	Hypopharynx	1		1
148	Pharynx, unspecified	4	1	5
150	Esophagus	13	5	18
151	Stomach	92	46	138
152	Small Intestine	5	1	6
153	Large Intestine	104	126	230
154	Rectum	77	47	124
155	Biliary Passages and Liver	22	21	43
157	Pancreas	14	14	28
158	Peritoneum	4	4	8
159	Unspecified Digestive Organs		1	1
160	Nasal Cavities, Middle Ear and Sinuses	3	4	7
161	Larynx	27	4	31
162	Bronchus and Lung	104	24	128
163	Bronchus and Lung, Unspecified		1	1
164	Mediastinum	2		2
165	Thoracic Organs (secondary)	1		1
170	Breast	4	268	272
171	Cervix Uteri		99	99
172	Corpus Uteri		81	81
175	Ovary and Fallopian Tube		51	51
176	Unspecified Female Genital Organs		12	12
177	Prostate	116		116
178	Testes	3		3
179	Unspecified Male Genital Organs	2		2
180	Kidney	15	6	21
181	Urinary Bladder	62	17	79
190	Melanoma of Skin	1	1	2
191	Other Neoplasms of Skin	90	58	148
192	Eye	3	1	4
193	Brain and Other Parts of Nervous System	2	1	3
194	Thyroid Gland	3	8	11
195	Other Endocrine Glands	1		1
196	Bone	19	7	26
198	Unspecified Neoplasm of Lymph Nodes	13	11	24
199	Neoplasms of Other and Unspecified Sites	48	47	95
200	Reticulosarcoma	1		1
200.1	Lymphosarcoma	1	1	2
201	Hodgkin's Disease	2	1	3
202	Giant Follicular Lymphoma		1	1
204	Lymphatic Leukemia	11	9	20
204.1	Myeloid Leukemia		3	3
	Not stated	7	3	10
		941	1002	1943

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MEDICAL-LEGAL OPINION INVOLVING SPECIAL TREATMENTS BY A NURSE

CHARLES P. WILLIAMSON, ESQ.
Legal Counsel, Rhode Island Medical Society

THE QUESTION:

Is a nurse legally protected if she adds medications to intravenous solutions and thereafter administers a series of such medications of 500-1,000 c.c. in post-operative treatment for dehydration and fluid balance?

CONCLUSION

WE BELIEVE that a nurse would not be liable in a civil or criminal action if she performed such acts properly and under the direction and supervision of a doctor.

Discussion

Three basic problems are involved. First; are these acts within the domain of nursing and so capable of performance without a doctor's personal supervision? Second; do these acts constitute the practice of medicine which can, however, be performed under the directions and supervision of a doctor? Third; do these acts constitute the practice of medicine which cannot be performed by a nurse under any circumstances?

The legal liability of a nurse in performing these acts would depend on a number of factors, such as the established practice of the medical profession in this state in giving such injections, the degree of training of the nurse, and the distinction between the practice of medicine and the practice of nursing. Any court would also be influenced by the degree of danger involved in the preparation and administration of such a treatment. We find little assistance in either our state statutes or case law to help us in reaching our decision which is based on our study of decided cases in other jurisdictions and on our belief how a Rhode Island court would decide the question.

The demarcation line between the practice of medicine and nursing has never been clearly drawn. We have found no specific authority which classifies the procedure in question as definitely within one category or the other. The General Laws of Rhode Island and the Supreme Court of Rhode Island define what constitutes the practice of medicine. The General Laws of Rhode Island, 1938, Chapter 275 governs the licensing and regulation of physicians. Section 2 of this chapter makes it unlawful for any person to "practice medicine" who is not properly registered by the state, and Section 8 provides that a person shall be regarded as practicing medicine where he

> . . . holds himself out as being able to diagnose, treat, operate, or prescribe for any person ill or alleged to be ill with disease, pain, injury, deformity or abnormal physical or mental condition, or who shall either profess to heal, offer or undertake, by any means or method, to diagnose, treat, operate, or prescribe for any person for disease, pain, injury, deformity or physical or mental condition.

Section 8 also provides that any unregistered person who practices medicine with the intent of receiving, either directly or indirectly, any compensation shall be deemed guilty of a misdemeanor and subject to a fine of $250 and imprisonment for six months. Section 6 of Chapter 275 exempts certain persons from compliance with the above provisions, but nurses are not so exempted.

The Rhode Island Supreme Court has also defined the practice of medicine:

> *". . . The practice of medicine, . . . has relation to the art of preventing, curing, or alleviating disease or pain. It rests largely in the sciences of anatomy, physiology, and hygiene; it requires a knowledge of disease, its origin, its anatomical and physiological features, and its causative relations; and, further, it requires a knowledge of drugs, their preparation and action. Popularly it consists in the discovery of the cause and nature of disease, and the administration of remedies or the prescribing of treatment therefor." State v. Mylod, 20 R. I. 632, 637 (1898); State v. Heffernan, 40 R. I. 121, 137 (1917); Schwarts v. Siveny, 35 R. I. 1, 7 (1912).*

Parrish v. *Clark*, 145 So. 848, 850 (Fla., 1933) involved a suit against a private hospital for injuries arising out of post-operative treatment by a hospital nurse who negligently continued to inject a saline solution to prevent dehydration although she noticed ill effects upon the plaintiff; the hospital was held liable on the grounds that it had contracted to nurse the plaintiff properly and, therefore, had a duty of care toward the plaintiff and a duty not to persist, through its employees and

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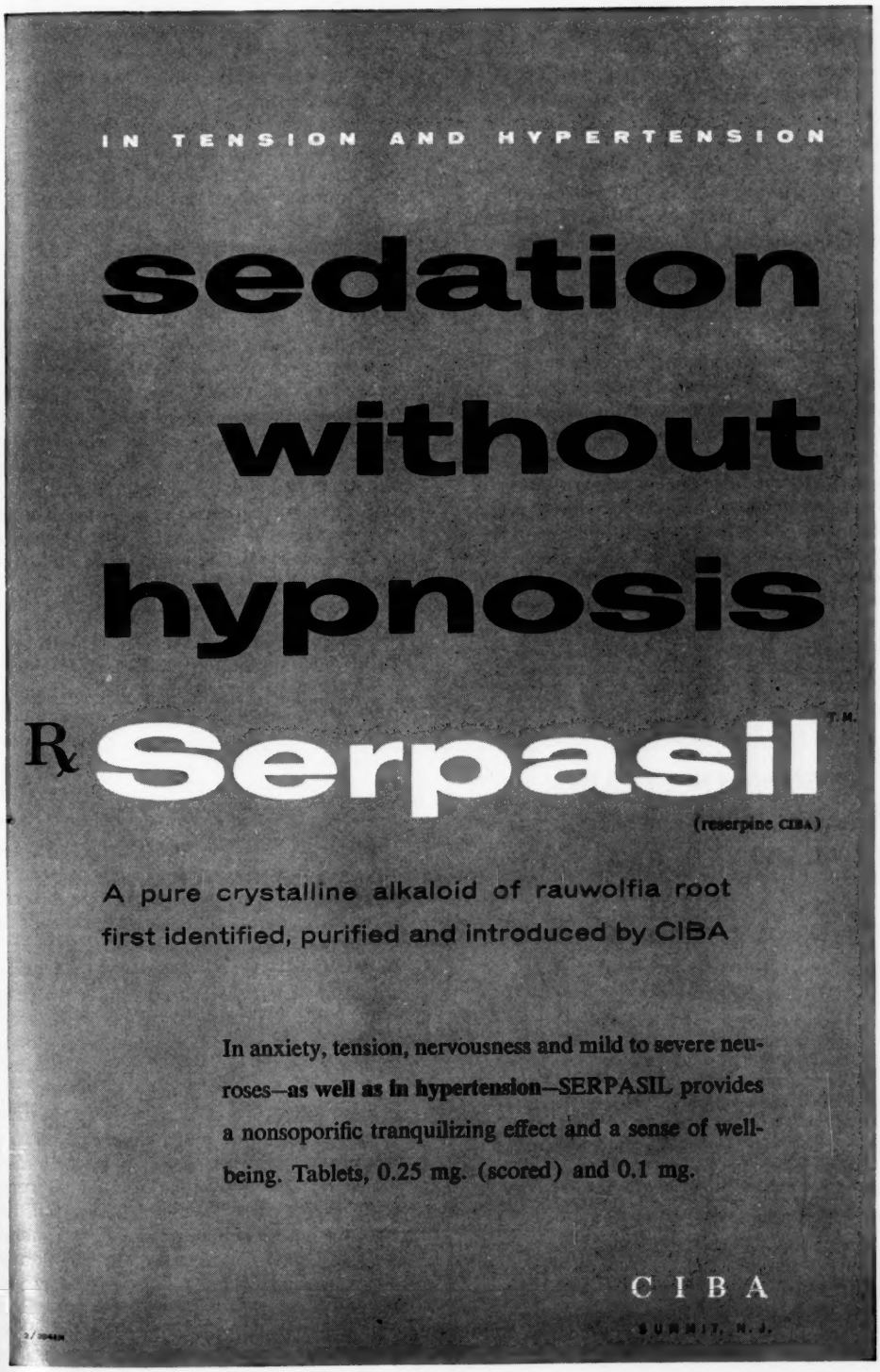
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MEDICAL-LEGAL OPINION

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agents, in a course of action or treatment which was adversely affecting the plaintiff. The nurse was considered an employee of the hospital and, therefore, the hospital was held responsible for injuries arising out of her negligent actions. The nurse administered the treatment while no physician was supervising her actions nor in immediate attendance. The court stated that the treatment here required "constant observation and skilled attention" and that it was "usually" administered "either by or under the direct supervision, observation, and direction of a physician." The court specifically did not decide whether a nurse could properly administer the treatment.

> Whether or not this undertaking by the nurse, to do an act which it is contended only the physician himself should have performed, was negligence on her part, or imputable to the hospital which employed her to care for the unconscious patient then in her care, is not necessary to be decided in this case. Plaintiff's recovery does not depend upon a holding by this court that such an act was negligence either *per se*, or otherwise.

Doctor Schiffel in his treatise entitled JURISPRUDENCE FOR NURSES (1931) stated (page 13, 15) that the injection of insulin ordinarily constitutes an act of nursing but that the administration of anesthesia, the application of major surgical dressings and the suturing of wounds do not. A nurse may perform the latter acts only as the assistant of a physician and only under his personal supervision. Dr. Schiffel added that unless the nurse was also a registered pharmacist, she would have no right to fulfill a prescription calling for insulin. This statement suggests that the preparation of the medication and its administration cannot necessarily be treated as acts belonging within the same category.

Dr. Schiffel, in JURISPRUDENCE FOR NURSES, (pages 12-17) adds:

> . . . The art of nursing, strictly as such, involves all of those tasks which are required to make sick or injured persons comfortable and keep them in good hygienic condition without resorting to remedial measures in so doing. Legally construed, nursing consists in caring for the bodily and mental comforts of the patient by non-remedial means. For those acts she assumes full responsibility and becomes strictly accountable; but the inauguration of remedial measures constitutes practice of some breach of the healing art requiring special license for lawful performance.

* * *

The giving of an anesthetic by a nurse has been subjected to litigation, and numerous decisions exist in which the courts have invariably ruled that such an act constitutes the practice of medicine unless performed at the specific order and under the actual personal supervision of a legally licensed physician.

* * *

Many acts which a doctor orders a nurse to do may become illegal acts unless they are carried out under his supervision as well as his direction. In order to bring an act under the doctor's supervision from a legal point of view, the order must be specifically given and performed under the condition that the doctor assumes the responsibility for its proper performance if the act comes within the scope of practicing medicine or any of its branches. Simply carrying out an order from a doctor under conditions which show no evidence of supervision on the part of the directing physician to the extent of enabling him to maintain discretionary powers, or under conditions which do not imply that he assumes responsibility for its wrongful performance, will not excuse the nurse if the act does not constitute a task ordinarily coming within the domain of nursing. Or, in other words, if the nurse undertakes to perform an act which is not within the limits of the definition of nursing, but rather belongs within the definition of the practice of medicine, the physician must be willing to assume

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the responsibility for the nurse's act if the patient happens to be damaged thereby, in order that it be construed as being done under his supervision.

The Medical Practice Acts of certain other states specifically exempt and exclude nurses from its prohibitions while they are working under the direct supervision and express orders of a physician. Perhaps, it would be advisable to amend our law to clarify the legal status of nurses in performing such acts. In other states it has been held that the administration of anesthesia and the performance of other tasks requiring skill by a nurse, pursuant to the orders of a physician and under his personal supervision, do not constitute the practice of medicine. The administration of anesthesia, while generally done in the physician's presence and pursuant to his orders, is not too closely supervised by him.

The case of *Frank* v. *South,* 175 Ky. 416, 194 S. W. 375 (1917) involved an action by the Kentucky Board of Health against a nurse and a physician, who employed her to administer anesthesia and directed and personally supervised her work so far as it was possible for him to do so; the court held that the giving of anesthesia by the nurse did not constitute the practice of medicine and noted that while licensed physicians generally administered anesthesia, many of the larger hospitals permitted trained nurses to administer anesthesia. The court held that the practice of medicine constituted the whole process of diagnosis, prescription of remedy, and determination of the time and manner of the administration of the remedy. The mere giving of medicine by a nurse was not considered the practice of medicine. In administering medicine a nurse does not exercise judgment as to the type of disease nor does she determine the remedy nor the manner of its administration. She merely acts as the hands of the physician at the time directed and is not practicing medicine in a popular sense. The court's decision in this case seemed to be guided by a reluctance to define the practice of medicine so as to include activities which may be safely carried on by auxiliary professions, such as nursing, the result of which would be to deprive the public of the benefit of these services. The court stated:

It seems that it would be impossible to practice medicine in any sense in which the term could be used without the practitioner making a diagnosis of the symptoms of the patient, and to determine what disease the patient is afflicted with, and then to determine and prescribe, what remedy should be used, in attempting to treat the ailment or infirmity with which the patient is suffering. The mere giving of medicines, which are prescribed by a physician in charge, who has made a diagnosis and determined the disease, and determined the remedy and directs the manner and the time and the character of the medicines

continued on next page

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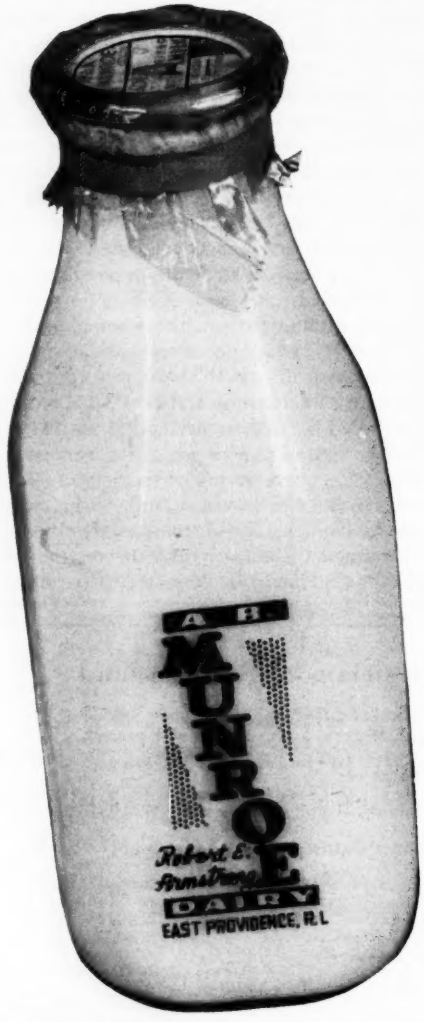

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to be administered, has never been considered engaging in the practice of medicine. The person who administers medicine under such a state of case, does not exercise any judgment as to the character of the disease nor the necessary remedy nor the manner in which nor when the medicines should be administered, but merely acts as the hands of the physician in administering the medicines in the quantities and at the times directed by the physician. It having been agreed that the appellant, Hatfield, (the defendant nurse) has never prescribed for any person, nor treated any human ailment or infirmity by any method, either medical, surgical or mechanical, unless the administration of anesthetics to a patient undergoing or preparing to undergo a surgical operation, and, in the presence and in accordance with the directions of the surgeon, in charge, who prescribes the anesthetic to be administered, it would seem that she is not engaged in the practice of medicine within the meaning of that term, and in accordance with its popular sense.

* * *

While the practice of medicine is one of the most noble and learned professions, it is apparent that such a construction ought not to be given to the statute, which regulates the profession, that the effect of it would be to invade the province of the professions of pharmacy, dentistry or trained nursing, all of which are professions, which relate to the alleviation of the human family of sickness and bodily afflictions and to make duties belonging to those professions, also 'the practice of medicine' within the meaning of the statute. Neither should such a construction be given to it to deprive the people from all service, which could be rendered to them in sickness and affliction, except gratuitous service, or else by licensed physicians, unless the legislature intended that such should be the result of the enactment of the statute.

* * *

The practice of surgery is one method of the 'practice of medicine,' and consists of an attempt to cure or alleviate a bodily infirmity or ailment by surgical means, that is, to treat the ailment by surgical means, that is, to treat the ailment or infirmity by applying manual operations or instrumental appliances, or by the use of the surgical knife. To enable the patient to bear the operation with a greater degree of safety and to recover from the effects of it more surely and rapidly, oftentimes, his general physical condition is improved by the administration of medicines beforehand; he is bathed and certain portions of the body specially sterilized to prevent infection of any kind, and anesthetics adminis-

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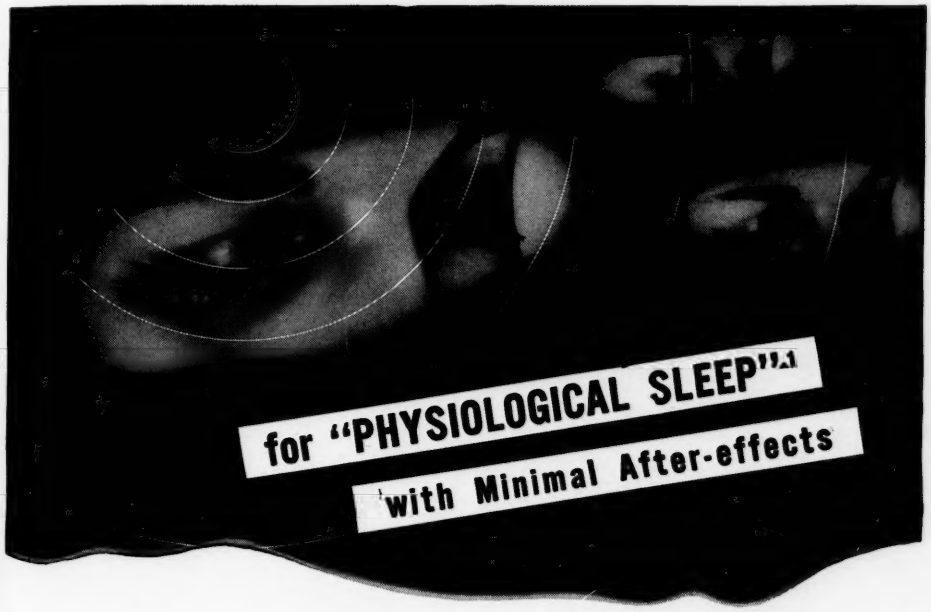

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[1]N.N.R., 1947, p. 398.
[2]Goodman, L. & Gilman, A., The Pharmacological Basis of Therapeutics. MacMillan, 1944, pp. 177-8.

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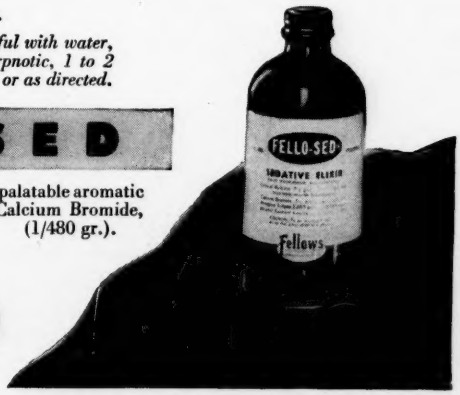

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MEDICAL-LEGAL OPINION

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tered to deaden the pain of the operation. The duties are performed by assistants selected by the surgeons, and who perform them under his direction and supervision, and when performed by them, as directed, without (428) diagnosis of the disease or prescribing the remedy, or the medicines to be used, or making use of the surgical means to cure or alleviate the disease, but only act as the hands of the surgeon, have never, in the popular sense, been considered as practicing surgery, or treating a disease or ailment by surgical means.

The Supreme Court of California reached the same conclusion in *Chalmers-Francis* v. *Nelson,* 57 P. 2d 1312 (Cal. 1936) where the court held that since the activities of the defendant nurse in administering anesthesia were done under the immediate supervision of a physician, they did not constitute the practice of medicine. The court took notice that it was a general practice in California and elsewhere to have nurses administer anesthesia, and was of the opinion that the practice of medicine involved a total activity rather than performance of isolated acts under a physician's personal supervision.

In the absence of more definite Rhode Island authority, we cannot state with any degree of certainty within which of the three categories the Rhode Island courts will decide the treatment in question belongs. We can merely predict what decision we think the Supreme Court would render in a case of this type and what circumstances would particularly guide its determination.

While the Florida Supreme Court refused to decide in the *Parrish* case the question posed before us, the language of the decision indicates that the court was not without doubts in the matter. This decision dictates that caution should be followed in determining the course of action to be taken here. On the basis of the anesthesia and like cases, however, it is reasonably safe to conclude that the preparation and administration of the treatment in question can be properly performed by nurses *provided that* they are acting pursuant to the directions of a physician and under his personal and immediate supervision.

The art or profession of nursing will undoubtedly be construed to include many acts which technically would appear to be within the definition of the practice of medicine. To decide otherwise would result in depriving the public of the benefit of much of the services now performed by nurses who are compensated, and would place further burdens on the medical profession. The Medical Practice Act was enacted solely to protect the public against unscrupulous and unskillful practitioners, (*Schwarts* v. *Siveny,* 35 R. I. 1, 3 [1912]) and, accordingly, the courts will categorize various acts depending upon whether they may be safely performed by nurses alone, or only while they are acting under the personal supervision of a physician, or may not be safely performed by nurses under any circumstances.

With respect to the possible liability of the nurse performing the acts in question, it should be noted that a nurse is not immune to liability merely because she is acting pursuant to the orders of a physician. If she cannot properly perform certain acts in the absence of personal supervision by a physician, then she would appear to be liable for doing so, even though ordered to do so by a physician. But where she is called upon by a physician to perform certain acts under his supervision which she could not perform upon her own responsibility but may properly perform under his supervision, then she is neither responsible for their nature nor their skillful performance beyond certain reasonable limits.

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